IF CHINA ATTACKS TAIWAN

Military strategy, politics and economics

Edited by Steve Tsang

ASIAN SECURITY STUDIES

IF CHINA ATTACKS TAIWAN

This book analyzes the issues that Chinese policy makers would have to consider if they were to decide to attack Taiwan. It explains and analyzes the driving forces behind the methods and the consequences of China using force, a prospect that has become greater following the return of President Chen Shui-bian to power in Taiwan in 2004.

As the reality is that there can be no real winner in such an eventuality and the consequences would be dire for East Asia as a whole, whether China will use force will depend ultimately on how its policy making apparatus assesses the prospect of US intervention, and whether its armed forces can subdue Taiwan and counter US military involvement, as well as on its assessment of the likely consequences.

Written by leading academics and government policy makers including former military officers and diplomats, this volume will appeal not only to scholars and students working on China and Chinese foreign policy, but also to policy makers and journalists interested in China's rise and its defense policy, Taiwan's security, regional stability, and US policy toward China and the East Asia region.

This book will be essential reading for students of Chinese politics, strategic studies, Asian security and international relations in general.

Steve Tsang is Louis Cha Fellow and Reader in Politics at St Antony's College, Oxford University. He is the author or editor of nine books, the most recent of which are *The Cold War's Odd Couple* (2006), *Peace and Security Across the Taiwan Strait* (2004) and *A Modern History of Hong Kong*(2004).

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TO EDGAR AND ISOBEL JENKINS

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PREFACE AND ACKNOWLEDGEMENTS

A military conflict across the Taiwan Strait is one of the most serious threats to peace and security in the Asia-Pacific region that remains after the end of the Cold War. The danger of a conflict has increased following the re-election of President Chen Shui-bian to a second term in Taiwan in 2004 and the passing of the Anti-Secession Law in China in March 2005. Chen is committed to overhaul the Constitution in Taiwan and to complete this process with a referendum to approve the "new" constitution before leaving office in 2008. China sees the proclamation of a new constitution as tantamount to asserting Taiwan as an independent state. The Chinese leadership now deems in general terms such a development intolerable. While it clearly has no wish to attack Taiwan, particularly in the run-up to the Beijing Olympics in 2008, it will use force against Taiwan if, in its judgment, Taiwan should pass the point of no return in asserting its independence and end the prospect of rejoining mother China.

Whether China will in fact use force is such a weighty and complicated issue that it will only be decided on the basis of assessments in Beijing at the time, even though the general conditions to use force have long been set. The developments that China says will lead it to resort to force are: if Taiwan should declare independence; if Taiwan should descend into turmoil; if Taiwan should develop nuclear weapons; if Taiwan should become a base for foreign military forces; and if Taiwan should refuse to negotiate for unification within a reasonable (but not defined) timeframe. It is precisely because of the importance of the issues involved that Beijing's declared bottom line over Taiwan is not as rigid or clear as it first appears. Beijing's most immediate aim is to deter Taiwan from asserting its independence formally, though its long-term goal remains unification. The Chen Shui-bian administration's objective, in sharp contrast, is to assert Taiwan's sense of identity and independent existence

in the international community, short of provoking China to use force. It means Chen's policy includes probing Beijing's bottom line and where flexibility is detected, to try to push it back a little in order to enlarge Taiwan's scope for independent existence. China has so far exercised a remarkable degree of flexibility in interpreting its bottom line in order to avoid the need to use force, but should another Taiwanese probe prove to go too far, it will trigger a forceful Chinese response.

The issue of attacking Taiwan is a particularly difficult one for China as it cannot prevent the United States and the international community from getting involved. While the scope for the UN to interfere is limited by the need to finesse the prospect of a Chinese veto at the Security Council, the United States, particularly under President George W.Bush, is highly unlikely to refrain from active intervention. It means China cannot deal with the Taiwan issue as a domestic one, however much it tries to claim that it is a matter for the Chinese people only, including the passing of a law to prohibit secession. Instead it must take into account the likely American responses to its resort to force against Taiwan. This includes how to deter or pre-empt the United States from interfering militarily, as well as how to deal with American military involvements should that materialize.

Given that the likely diplomatic costs of authoritarian China using force against democratic Taiwan will be very high, and the even higher economic costs on Taiwan and China itself, it is logical to assume that China will not actually use force as it cannot afford to do so. However, the powerful emotional appeal of Chinese nationalism, which has become the dominant ideological driver in China since the collapse of communism as the state ideology, will impact upon how Chinese policy makers deliberate over such an issue should the moment materialize. We must not forget that policies are never made on the basis of the reality but on one's assessment of it, which in turn can easily be distorted by one's obsession or emotional commitment.

To understand whether China will in fact resort to force or not, one needs to go beyond an objective assessment of the issues concerned and try to look at the issues from the perspective of the Chinese policy

makers as well. After all, whatever President Chen of Taiwan may do, he will not knowingly take a step that will trigger a Chinese attack. A war across the Taiwan Strait will happen almost certainly only as a result of a carefully deliberated policy decision in Beijing, even though this may entail serious miscalculations based on incorrect understanding of various factors involved.

It was out of this recognition that I have gathered a team of specialists who have long studied the many different dimensions of issues that the Chinese leaders must consider before deciding to use force to explore this subject and produce this work collectively. Since understanding so much of the subject matter requires knowledge of modern warfare, every chapter that deals with a military dimension has been subjected to the careful scrutiny of experienced officers of the relevant branches of the armed forces. I was able to do so because of the generous support of the Taiwan Studies Programme of the Asian Studies Centre at St Antony's College, Oxford University. It hosted an international conference to examine, discuss and debate the many different issues involved. This volume is a product of the intellectual discourse which started intensively at Oxford in early 2004, rather than a collection of conference papers, excellent as they were. Contributors to this volume took advantage of the brainstorming at St Antony's College to reflect on their insightful conference papers before they revised and, in a number of cases, rewrote them to produce a coherent collaborative work.

As editor I am most grateful to my colleagues for their good humor, cooperative spirit and forbearance when they were asked to meet one tight deadline after another whilst fulfilling their many obligations in academic or other professional work as well as demands on their time in private life. Their names are not repeated here as you already know who they are. Without their understanding and cooperation it would have taken much longer for this work to see the light of day. Winnie King deserves a warm note of thanks for her assistance at the editorial stage.

In organizing the conference at Oxford, I am deeply indebted not only to those presenters of papers who are now contributors to this volume, but also to all the friends and colleagues who gave presentations, served as

discussants, chaired sessions and more generally shared their insights in two days of intensive intellectual discourse and debate. In this connection I am particularly grateful to Jean-Pierre Cabestan, Gerald Chan, Ching Chang, Han-hua Chen, Antonio Chiang, David Coates, Richard Cobbold, Martin Fairclough, David Faure, Rosemary Foot, Roy Giles, Kenneth Golden, Lily Hsu, Yuen-foong Khong, Daniel Lafayeedney, Jonathan Mirsky, Derek Mitchell, James Settele, Vivienne Shue, Hung-mao Tien, Cynthia Watson, Andrew Yang, Philip Yang, Tiehlin Yen and Wei Zhang. Jenny Griffiths, Jessica Hun and the staff of St Antony's College provided invaluable administrative assistance and other practical support.

Steve Tsang
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ABBREVIATIONS

See Table

1

DRIVERS BEHIND THE USE OF FORCE

Steve Tsang

Whether or not China uses force against Taiwan will be decided neither by the degree of economic integration across the Taiwan Strait, nor by a blatantly "provocative" act of declaring independence by Taiwan's President Chen Shui-bian or his successor. Important as economic considerations are, they are not more significant than considerations of the "moral" strength of the case, or of the "honor" of the Chinese nation to right "a historic wrong" bequeathed by the history of "Western imperialist encroachment on sacred Chinese territories." As Maochun Yu argues in Chapter 2, even though the Chinese have been remarkably unrestrained in re-interpreting history, it does play a critical role in conditioning the mindset of policy makers in Beijing over the issue of Taiwan.

In Taiwan, whatever the personal preference of Chen or any future leader holding the office of state President, he/she will not intentionally announce a policy that will immediately cause China to attack Taiwan. Given the certainty of China's reactions to a formal declaration of independence by Taipei, no president in Taiwan would take such a step. Although public opinion in Taiwan continues to support governmental attempts to assert Taiwan's sense of identity and its existing membership in the international community, it should not be equated with favoring or provoking a war with China.

War however, will most likely result if Beijing perceives Taipei's next step as a step too far, or being the proverbial straw that breaks the camel's back.[1] Alternatively, some level of force may be used, should the Chinese government believe that it could bring Taiwan back into the fold of mother China, while simultaneously avoiding engagement in a full-

scale war with the United States (US). China's decision to use force against Taiwan will be based on a mixture of factors, including hard-nosed realist cost-benefit calculations, as well as colored assessments distorted by elements of nationalism and moral righteousness.

Reduced to its starkest terms, China's policy aim is to secure the return of Taiwan or at the very least the prevention of its permanent and formal separation from China. If Beijing believes that Washington will not respond forcefully, the Chinese leadership will use force to stop Taiwan from making any move that will enable it to assert its formal existence as a nation state separate from China. With a population of 23 million and its resource base, it would be unrealistic, or very nearly impossible, to expect Taiwan to defend itself without external support against a rising power of 1.3 billion people separated by less than 100 miles of ocean. For Taiwan to stand any chance of repulsing a determined and full-scale Chinese attack it will need the support of the United States, not least to keep its armed forces supplied with vital materiel and keep open Taiwan's sea and air links to the wider world.

The rational calculus for war

China's decision to use force will depend highly upon its assessment of the US military, and above all, the US political capacity to respond and its commitments elsewhere, particularly in Iraq and Korea in the foreseeable future. Despite the obvious interest Beijing has in preventing itself from being drawn into a crisis on the Korean peninsula, one should not see Beijing's policy toward North Korean nuclear brinkmanship simply in terms of a passive broker for peace.[2] For Beijing, the North Korean issue is intricately linked to its core external relations and strategic security agenda, namely its relationship with the US over Taiwan. After all, China would almost certainly have taken Taiwan had there not been the Korean War in 1950. It is important to remember that Beijing does have leverage in Pyongyang, and has the scope to persuade the North Koreans to increase or reduce tension, albeit only to a limited extent. Therefore, should Beijing choose to use force against Taiwan, it may be able to persuade Pyongyang that this can be done with mutual benefits. In fact the latter may even be persuaded to help by further increasing tension to a crisis level. If Beijing were to adopt such an approach, its intention would be to create confusion in order to deter the US from responding quickly and effectively to its moves against Taiwan. The objective would be to allow China to pressure Taiwan into submission, before it attempts to repair some of the damage done to Sino-US relations by getting Pyongyang involved.

Also critical is Beijing's assessment of its forces' ability to coerce Taipei to enter negotiations for unification before US forces could reach Taiwan. As will be shown in Chapters 4–9, Beijing's current military doctrine focuses, not on a massive amphibious assault, but on the "decapitation" of the political and military leadership of Taiwan. This is meant to be an attempt at a limited use of force. It may involve well coordinated ballistic missile strikes (see Chapter 4, by Pollack), and/or attacks by special forces (see Chapter 5, by Fisher) against carefully chosen leadership and command and control targets in Taiwan. Such an operation could increase its coercive value through the mobilization of

the elite 15th Airborne Corps, as well as the East Sea and the South Sea Fleets, which can be easily detected by the Taiwanese and Americans. The aim then is to force Taipei's government, which may no longer be headed by Chen, to enter into negotiations on Beijing's terms. A key underlying assumption in Beijing is that US intervention. and with it an escalation into a full-scale war, could be pre-empted if such negotiations began quickly.

This in turn implies that China will not use force against Taiwan if it knows for certain the US would intervene massively (see Chapter 2, by Yu). US deterrence against Chinese designs over Taiwan was one of the most successful cases of such a policy during the Cold War. However, this no longer applies, as the US policy has gradually been shifted from deterrence against China to "dual deterrence." As Richard Bush explains in Chapter 3, Washington now also needs to deter a democratic Taiwan from taking steps that may lead China to resort to force. The result is a necessary degree of ambiguity over how the US would respond to a crisis in the Taiwan Strait. This means that the scope for miscalculation for Taipei is no longer negligible. Hence, it was necessary for George W.Bush, the US President most sympathetic to Taiwan since Dwight D.Eisenhower, to rebuke publicly President Chen Shui-bian in December 2003, when Chen appeared to embark on a course that could cause China to resort to force.

If scope for miscalculation by Taipei in fact exists, this applies even more to Beijing. After all Washington has greater room to speak bluntly and exert direct pressure on Taipei than it does on Beijing. Taiwan's ultimate dependence on the US for its survival as a state means that should it take steps that may lead to a Chinese attack, Taipei would be exposed to very strong and direct pressure from Washington. Chen Shui-bian's backtracking from his expansive electoral rhetoric, over the replacement of the Republic of China (ROC) Constitution by referendum in his second presidential inauguration speech, in May 2004, demonstrated the effectiveness of US pressure.

While it is US policy to pre-empt a war across the Taiwan Strait, the Chinese government can easily misjudge US intentions and miscalculate

US capacity. Chinese policies are not made on the basis of reality, but rather on assessments of it. In China the Taiwan issue is seen through the prism of morality, the future of the Chinese state and national honor, and growing resentment against Taiwan's incremental approach to asserting independence. Even as the military balance is steadily shifting in China's favor, its assessments of outside reactions to China's "righteous" use of force against Taiwan are colored accordingly.[3] Distortions of reality will not be adequately corrected by Chinese diplomats stationed overseas, including in the US. The Chinese bureaucratic system suffers from an inherent weakness. It is that diplomats are required not to contradict senior leaders even when reporting views they have collected and collated in their diplomatic missions.[4] Given that policies related to Taiwan and the US are two of the most important issues for the Chinese leadership, once it has made its basic view known, it is highly unlikely that Chinese diplomats in Washington, or elsewhere, will risk contradicting it, irrespective of their private views.

Chinese assessments of the US capability to respond to a crisis in the Taiwan Strait are tied to their evaluations of how over-stretched US armed forces are elsewhere, in particular, in Iraq in the foreseeable future. The immense problems the US Government and Army face in Iraq may also lead the Chinese to conclude that, even if the US Navy and Air Force have undiminished capabilities in the Pacific Command, the American political will to interfere militarily has been gravely sapped. In any event the Chinese also have scope to limit the capacity of the US Pacific Command to help Taiwan defend itself by, for example, increasing tension in the Korean Peninsula. In short, the idea of a post-Iraq syndrome against overseas military adventure emerging in the US over the next few years, may lead some in Beijing to conclude that a rare opportunity for the resolution of the Taiwan issue may soon present itself.

If such an assessment were to be taken seriously by China's top leaders, it would be as dangerous as General Xiong Guangkai, career military intelligence officer and the current deputy Chief of the General

Staff, taking the view that he doubted the US would "trade Los Angeles for Taipei."[5] Equally significant is the often repeated comment by serving senior Chinese officers, that the US's determination to help defend Taiwan would dissipate if the Chinese were to take out an American aircraft carrier, suggesting a lack of understanding of the nature of American society and people. The resolve that characterized the US response to the Japanese attack on Pearl Harbor does not appear to have been taken on board by General Xiong, or most Chinese officials who have expressed such a view. In evaluating the American will to help Taiwan defend itself, the question is whether the Chinese will take into account how fully the US sees the "war against terrorism" as a long-term struggle, and that it is highly unlikely to refuse to defend American values and the democratic way of life (which include supporting democracy in Taiwan, the most successful American protégé since 1945).

A different, but no less dangerous Chinese miscalculation may involve their misjudgment of the Taiwanese determination and capacity to resist after a successful Chinese "decapitation" operation. A Chinese commentator has already suggested that Chen Shui-bian's bitter and controversial electoral victory, in March 2004, has gravely undermined the credibility of his administration and the loyalty of Taiwan's armed forces in defending such a government. For Beijing, if this in fact holds true, it means it is the right time to threaten war and force Chen to accept "the One China principle."[6] Such a view, however, reflects a complete failure on the part of China to understand the dynamics of politics in Taiwan. With a sense of local identity steadily rising, Taiwan's president cannot afford to be seen as capitulating to Beijing's pressure. Equally, this growing sense of identity is more likely to solidify than to disintegrate if the survival of Taiwan, as a society, is being threatened by a successful Chinese "decapitation" operation. Whoever takes over the reins of political leadership in Taipei, after such an eventuality, would come under tremendous domestic pressure to lead Taiwan to resist, particularly if the prospect of US aid continues to exist. Taiwan as a whole might be deeply shocked by such a surprise attack, but its people

and its citizen soldiers would most probably rally around and defend their homeland. There is nothing that would provoke a stronger sense of "the evil them" bullying "the heroic us" in Taiwan, than a successful "decapitation" operation by the Chinese.

The very dynamics of Taiwanese politics means that even the limited use of force by Beijing to pressure Taipei to "rein in at the brink of the precipice" will be counter-productive.[7] As long as the Taiwanese are not seen to have brought about such a turn of events themselves, the US will, more likely than not, come to Taiwan's aid, particularly if it does not necessitate the dispatch of ground troops. Thus, any miscalculation on the part of Beijing that may lead to use of limited force against Taiwan, will most likely result in an unintended escalation toward a war involving both China and the US.

To understand how the Chinese assess the costs and benefits of using force against Taiwan, it is necessary to examine systematically and objectively whether the People's Liberation Army (PLA) can deploy missiles and unconventional forces to carry out a "decapitation" operation, seize control of the air and command of the sea, organize and sustain an amphibious assault, and otherwise provide the infrastructure to support a full scale attack against Taiwan. The rest of this volume does just this. It will also examine the diplomatic, political, and economic costs that China will have to pay for attacking Taiwan, before drawing a few conclusions on what the key drivers behind relations across the Taiwan Strait are.

China's capacity to attack

In considering a Taiwan Strait war scenario, the first issue that comes to most people's mind is the threat of China's ever growing missile force. Its 706 missiles appear to be a capability directed primarily for use against Taiwan.[8] To put this threat in context, the destructive power of the 706 guided missiles amounts roughly to 706 other precision guided munitions, such as the Joint Direct Attack Munitions (JDAM), which the Americans used a lot more on a daily basis during the assault phase of the 2003 Iraq War. However, if they were used against a very limited number of selected political leaders, as well as command and control targets, for a "decapitation" operation, they could be highly effective in causing the confusion and damage hoped for by Beijing's policy planners. Equally, if the missiles were used as a weapon of terror against the civilian population or commercial shipping, their impact, and thus value, is disproportionate to their actual destructive power. Indeed, these two tactical deployments of the missiles are not mutually exclusive. They can be combined to ensure China's desired result will be achieved. It is the wide scope and flexibility that this missile capability poses that makes them a weapon for all seasons (see Chapter 4, by Pollack).

Given that Taiwan's defense establishment has long prepared itself against all eventualities in a Chinese attack, many of the key command and control centers are located and well protected against missile attacks or air strikes. This means that any serious planning of the PLA to engage in a "decapitation" operation against Taiwan, must include the deployment of special forces. The capacity of the PLA to do so is examined by Fisher in Chapter 5. As Fisher makes clear, it is essential to explore the other key non-conventional options available to the Chinese authorities, not just to the PLA. A campaign of intimidation aims to force a quick political capitulation; the PLA will use any "magic weapons" available to cause confusion and panic in Taiwan. This could include the use of information warfare and electro-magnetic weapons, which have the abilty to cause serious disruption to everyday life in Taiwan. These will almost certainly be supplemented by the Communist Party's use of

“united front” tactics to win the hearts and minds of the people of Taiwan, just as the Taiwanese government is made out to appear paralyzed to its people.

In order to deploy and sustain the deployment of its special forces in any numbers, the PLA will also need to seize sufficient control of the air, as its special forces cannot otherwise be extricated or re-supplied and supported on any scale after the launching of their initial surprise attacks. The highly complex issues involved in establishing air superiority, in the twenty-first century, are the subjects of inquiry for Allen and Allen (Chapter 6). The recent examples of spectacular US might in the air, whether in Iraq, Afghanistan, or Kosovo, provides a good baseline of how the US might prosecute an air war across the Taiwan Strait. Every conflict, however, has its own variables, such as if, when, and how US naval and air forces are directly involved in the conflict. What must be taken on board, though, is that in considering the key issues, one must jettison many of the conventional views regarding how air wars have been prosecuted since the Second World War. In a situation involving combatants deploying “fourth generation” combat jets and further supported by sophisticated beyond visual range air-to-air as well as surface-to-air missiles, the traditional dog-fight will not be the norm, but rather the last resort. The calculations for establishing air superiority have become highly complicated and complex. It is no longer a matter of comparing the numbers of warplanes, their capabilities, or degree of pilot training. Other factors also have a direct impact on air war operations, include ballistic missile and cruise missile attacks on airfields and air defense facilities on both sides of the Strait, airborne early warning and control systems available to all forces, and intelligence collection systems employed before and during an attack.

With Taiwan being an island, no study of a potential attack would be complete without careful scrutiny of whether the potential assailant can seize command of the sea in Taiwan’s vicinity. This subject is the focus of Cole’s inquiry in Chapter 7. Once again, what is required is more than comparing ships, platforms, weapons systems, and the general offensive capabilities of the Chinese and Taiwanese navies, as well as the American

Pacific Fleet. Command of the sea implies the use of naval power to enable one to achieve one's political objectives, not least by cutting one's opponent off from the rest of the world. Since Taiwan's economy is a largely externally oriented one, with trade, exports, and imports of vital raw material and energy being its lifeline, whether China can establish command of the sea around Taiwan is critical to Taiwan's survival. This would have a decisive impact on China's capacity to subdue Taiwan and impose a political settlement, should a "decapitation" operation fail. It is also within the naval arena that the Taiwanese can expect the largest element of American assistance, as the bulk of the US mobile offensive capabilities within its Pacific Command, including the aviation component, is provided by the US Navy. No doubt it was due to recognition within the US government that Taiwan's naval capabilities are inadequate for the tasks required, that gave rise to the focus on naval armaments in the April 2001 package of arms sales authorized by President George W.Bush. To acquire the capability to deal with the threats posed by the PLA Navy, including its sizeable and rapidly improving submarine force and naval air arm, Taiwan desperately needs the eight diesel submarines, Orion maritime patrol aircraft, and the Kidd class air-defense destroyers that form the mainstay of this package. What it will also need is to achieve a level of inter-operability with the US Navy, and an integrated command and control system with its own air force, so that the new hardware would be used effectively.[9]

Closely related to the command of the sea is the question of whether China can launch and sustain an amphibious assault on Taiwan. Cole and Niquet address this issue succinctly in Chapter 8. As highlighted by Commodore Kenneth Golden, a recent commander of the American Amphibious Squadron One at a recent meeting in Oxford, for the PLA to attempt a Normandy-style landing on Taiwan would be foolhardy. This is because the technology available for the conduct of warfare today has changed so much that attempting an opposed landing against a determined defender, who enjoys significant, and perhaps superior tactical air support, would be suicidal. The costs involved in such an

operation would be so prohibitively high that even an army steeped in the tradition of the "human wave" should hesitate to attempt it in the context of the twenty-first century. It remains instructive to make a brief comparison of the Normandy landing and an amphibious assault on Taiwan from China, as this highlights the scale of the task at hand, and since China is "racing to complete 23 amphibious ships"[10] Cole and Niquet leave no doubt that while the PLA is building up its amphibious capabilities, a Chinese attack against Taiwan will be much more imaginative than a Normandy-style landing.

While China would clearly prefer not to embark on a full-scale war against the US in order to take Taiwan, one cannot and should not ignore the issue of an unintended escalation once China applies limited force against Taiwan. In such an eventuality a critical question is whether China has the infrastructure to enable it to sustain a full-scale war against Taiwan, while Taiwan receives major support and assistance, including the potential involvement of direct action by the US Navy and Air Force. This forms the main focus of Cheung's study in Chapter 9, and is particularly pertinent as the PLA is more dependent than most of the leading Western military powers, on the civilian sector for providing logistical, transport, and communication support for operations beyond its own borders. In his examination of the issues involved, Cheung focuses upon the capacity of the Nanjing Military Region, as it is the main Military Region that will be given the primary responsibility for taking Taiwan. It is necessary to recognize that the rapid development of China's economy and infrastructure over the last two decades has significantly enhanced the civilian sector's scope to aid the PLA in wartime. While the defense mobilization system in China as a whole has left much room for improvement, it is noteworthy that it is in the Nanjing Military Region that it works best.

The costs of a war

The consequences of a large-scale war between China and the US over Taiwan would be horrendous. Three of the most vibrant economies in East Asia, Taiwan, China and Hong Kong, would be ruined. As their economies are all now closely integrated with the economies of the region and, to a lesser extent, the rest of the world, the consequences of such destruction beyond their boundaries should also not be under-estimated.[11] In fact, it is hard to see any major country in the Asia Pacific region not being seriously affected.

Being the primary site of military conflict, Taiwan's devastation should be taken for granted. This would apply even if no PLA landing were attempted and if Taiwan survives massive Chinese air and missile strikes, as well as an attempted blockade. The costs of a war for Taiwan would be so high that even if it should "win" the conflict in the old-fashioned sense of the word, it would be at best a hollow victory. Taiwan might be able to assert its formal independence in the sense of changing its name and flag as a result, but it could not prevail over China militarily.

Any American intervention would be limited in its objective. Its aim would be to enable Taiwan to defend itself against a Chinese attack, not to militarily subdue China. A conflict would invariably end with some kind of a peace settlement, even if only an informal one reached by the protagonists. This would almost certainly mean that, whatever it may choose to call itself, Taiwan would still not enjoy general recognition as an independent country by most members of the international community. It ought to be recognized that even after a failed attempt to seize Taiwan China would remain a permanent member of the Security Council at the United Nations (UN), and it would continue to use its veto to prevent Taiwan from being accepted as a member of the UN. It is unrealistic to expect more than a handful of countries which would be willing to alienate China on a permanent basis over Taiwan even after an unwanted, unjustifiable and very costly war started by China itself.

For Taiwan, the costs of a war would be so blatantly high that whatever

Taiwan might gain would be outweighed by its losses. The destruction of its infrastructure, economy, and external trade links; the loss of human life; and the heightening of social and sub-ethnic tensions during the course of the conflict would wreak havoc in Taiwan, resulting in a very long rehabilitation period. Since this ought to be self-evidently true, this volume does not include a chapter to examine the likely costs of a war for Taiwan itself.

Departing from the pattern of history when it was a British colony, as a Special Administrative Region of China, Hong Kong will not be able to avoid being caught up in a war between China and Taiwan. In the past Hong Kong has avoided being drawn into conflicts, as its British administration could maintain a policy of neutrality.[12] It was indeed its status as a British Colony that enabled it to escape international sanctions after Chinese intervention in the Korean War in the 1950s.[13] This advantage was lost when Hong Kong ceased to be a British territory and was handed over to China in 1997. As a Special Administrative Region, Hong Kong would be required to demonstrate loyalty to Beijing. In light of its new status and importance to the Chinese economy, international sanctions against China for initiating a military conflict cannot exclude Hong Kong if they are to be effective. Its very close economic links with China and Taiwan means that Hong Kong's own economy could not but suffer badly in the event of a cross-Strait war.

China's own economic well-being is so heavily dependent upon symbiotic relations with Taiwan, Hong Kong, the US, Japan, the European Union, and its Asian neighbors, that a large-scale war could not but turn the Chinese economic miracle into a disaster of the first order. Given the degree of economic integration China has forged with the rest of the world in the last decade, the economic impact would not be restricted to Greater China (Huang, Chapter 11).

The economic costs of a major war for China would be second only to those for Taiwan. In general terms, it is hard to conceive of China being able to avoid economic sanctions imposed by the West, led by the US and supported by the European Union, Japan and Australia, should it attack

Taiwan. This would mean being cut off from some of the world's most important markets and sources of foreign direct investment, which have played such a crucial role in China's rapid and sustained growth of the last decade.

An equally devastating blow to the Chinese economy and living standards would come from the impact of a war on the Taiwan and Hong Kong economies. For over two decades, these two economies have served as the key locomotives that have driven economic reform in China. Their own economic destruction, which would follow the outbreak of a major military conflict, means that they would not be able to maintain this role in China. Indeed, with Taiwan being the target of a Chinese assault, the severance of economic links would be particularly painful for all concerned. The idea that since most Taiwanese investments in China are in the form of factories and manufacturing facilities, China enjoys a significant advantage over Taiwan, is illusionary. In the eventuality of war, this idea is true only in "the spirit of Ah Q"—one sees oneself winning when one is in fact losing. Taiwan may indeed suffer more than China as economic links are initially severed, but the overall impact on China would be even more devastating in the longer run. As an authoritarian system that relies partly, but critically, on steady economic growth as the basis of the Communist Party's legitimacy, the stakes are much higher for Beijing. Should the war lead to economic ruin, as a result of the halting of foreign investment and economic sanctions, it would remove one of its most significant pillars of post-1989 legitimacy.

In diplomatic terms, the costs of a war for China would also be very high. It would negate almost all of the diplomatic achievements China has secured in the last decade (see Chapter 10, by Deng). The world may have re-embraced China sooner than Beijing had originally conceived following the sanctions imposed as a result of the 1989 Tiananmen Massacre, but a war against Taiwan would cost Chinese diplomacy much more. A blatant violation of human rights within China, such as took place in 1989, might have been of great concern to the West, but it was not for many of its Asian neighbors.

Despite their acceptance of China's basic position over Taiwan, a

military attack on Taiwan would have a completely different impact on the Association of Southeast Asian Nations, for example. Familiar with the communist concept of the United Front, they have voiced concern in private that once the Taiwan issue is resolved, China's approach toward Southeast Asia may change. With this resolution, the question of whether China's rise would be a peaceful or a hegemonic one would become a live one in the region.[14]

As for the West, a war over Taiwan would not only raise serious international issues for many nations, but it would also raise the question of whether the Greater China region would remain the land of opportunities, as it did after the Tiananmen Massacre in 1989. Would an economically devastated China, which would be pre-occupied with pacifying resistance in Taiwan and other unexpected problems that are likely to emerge after a war, remain the dream land for investors? In any event, some of the Western powers, particularly the United Kingdom, Australia, and Japan, are likely to have been asked by the US to give support to American efforts to help Taiwan defend itself. Even if their military involvement was minimal or largely symbolic, the ramifications of such participation would leave long-lasting marks on their governments' policy towards China. Such ramifications would be much more substantial than those countries' reactions to the Massacre of 1989. Chinese use of force against Taiwan would also almost certainly destroy whatever gains Beijing has managed to secure over the last decade, particularly after the introduction of policy attempts projecting its rise as a peaceful and non-threatening one to others.

Politically, a military failure to subdue Taiwan would expose the Chinese Communist Party to serious challenges (see Chapter 11, by Huang). Its military failure would anger ultra-nationalists and embolden liberal intellectuals. The time when the top leadership in Beijing could execute an abrupt turn over its Taiwan policy, as Mao Zedong managed to do on different occasions in the 1950s, has passed. Even after Jiang Zemin had consolidated his position and became the top leader in 1997, it was already highly questionable whether he could attempt a reversal of

policy over a critical and sensitive issue like Taiwan, and still survive domestically. The division of authority between Hu Jintao and Jiang Zemin for two years after November 2002, ended with Jiang's relinquishment of the chairmanship of the Central Military Commission in September 2004. But China has changed so much since the end of the Maoist era that Hu cannot become the paramount leader comparable in authority to Deng Xiaoping. Whether Hu can surpass Jiang in establishing a dominant position within the Communist Party, and in China as a whole, is an open question. If Hu should ever lead China to war over Taiwan and need to reverse policy as defeat looms, a division within the top Party leadership is likely to erupt. The capacity of the communist leadership to act as a united actor in confronting dissenting forces, which may be unleashed by the failure of such an emotionally charged policy, will therefore be limited. By combining these forces and factors together, it is questionable if the Communist Party can survive a failed use of force against Taiwan.

In such an eventuality, the costs for Beijing are so high that a war over Taiwan would amount to almost mutually assured destruction for both China and Taiwan. However, be that as it may, there is no convincing evidence that Beijing takes this assessment seriously enough. Given that its policy is made not on the basis of reality but the assessment of it, this sobering calculation may not, in the end, deter China from resorting to force.

The power of emotion

In general terms policy makers in China are at least as realistic and calculating in their approach toward Taiwan as their colleagues handling a comparably tricky issue in any other major country. The internal debates among different elements of the policy making establishment in China are and will continue to be based on the evaluations of intentions and likely reactions of Taipei, Washington, and the rest of the international community to China's use of force. Even though the aim is to get Taipei to fall in line without having to fight the US, China also explores and examines how to deal with American intervention. As far as such policy debates go, in principle there is no fundamental difference in policy making on particularly sensitive or high-stakes issues among other policy makers within China or elsewhere.

What makes the Taiwan policy stand out in China are the strong emotional factors involved, and the constraints placed on the professional layer of China's policy makers from contradicting top leaders on matters involving regime legitimacy and the "sacred" duty of the Communist Party. As in any other country, the emotional appeal of nationalism over defending the integrity of the nation is likely to distort the assessment of professional policy makers, be they members of the armed services or the diplomatic corps. The emotional commitment of a country's top leaders to a particular policy objective also seriously impacts upon the policy making process. Indeed, the US policy to use force to oust Saddam Hussain in Iraq, in 2003, shows how even a democracy can affect the way policy advisors evaluate intelligence, and assess the case for war in the twenty-first century.[15] In the Chinese case, the scope for distortion is significantly greater.

The Communist Party has been brainwashing its cadres and general population over the issue of Taiwan for over half a century. This has undoubtedly left its mark. The judgment of some, if not all, Chinese policy makers and their professional advisors cannot but be colored by the sense of righteousness they feel regarding Taiwan. In their deliberations over whether the PLA could subdue Taiwan prior to US

interference, or whether the PLA could inflict sufficient damage on US forces to deter an escalation of American participation, would the PLA high command not have at least one general officer who would be willing to volunteer and fulfill such a sacred mission? Can one rule out the prospect that the Taiwan issue will be seized by one of the top leaders as an issue that could significantly affect his political future or survival in the Byzantine world of Chinese politics in the next decade or two?[16] Should the issue of using force, be it in a limited or more general form, be raised in the Central Military Commission, and if one of the generals should seize the moral and nationalistic high ground in volunteering to deliver Taiwan to mother China, could others afford to appear as "traitors" and "cowards" and contradict him, even if they had serious professional reservations over such a proposal? Does the Leninist system in China allow for much scope for its professional policy advisors to contradict the views of the top leadership once a policy line has been laid down?

Drivers behind the use of force

If policy makers in Taipei were to think about "the morning after," they would do everything they could to pre-empt the Chinese Central Military Commission from examining, as an immediate (rather than as a long-term contingency) policy option, the practicality of using force against Taiwan. Taipei should pre-empt such an eventuality as this gets too close to war breaking out as a result of miscalculation driven by nationalism. To do so, it needs to take the China threat very seriously. It is ironic that, if the government in Taipei were to do so, it would continuously send out signals, not only through policy statements but also by its deeds, that it will not cross Beijing's albeit not very clearly defined bottom line. This would have the effect of reducing the risk of force being used by the Chinese. One could take a moral position and assert that the problem here rests ultimately with China's policy makers, and that they should be required to come to their senses. However, the stakes are so high for the people of Taiwan and the survival of Taiwan as they know it, that this should not be handled as a matter of right or wrong, but rather as one of protecting their best interest.

However, with electoral considerations being the most powerful force in Taiwanese politics, no government in Taipei, of whatever political persuasion, can afford not to push to the limit of Beijing's bottom line through Taiwan's assertion of its sense of national identity. The critical issue is, therefore, whether the government in Taipei is merely pushing the limits of China's tolerance, or is deliberately stepping on, but not overtly crossing, Beijing's bottom line. One should not ignore the fact that action and reaction are, in general terms, equal and opposite. Over a long period of time, the real driving force behind one's policy toward one's political opponent will be revealed. Taipei's policy toward Beijing will have a major impact on whether China will ultimately use force or not.

Since Beijing's bottom line is so vague in practice, there is a certain scope for flexibility. An occasional stepping-on, but not crossing, of its red line is likely to be tolerated by Beijing. A Taiwanese policy to

continue stepping on Beijing's bottom line will, in contrast, eventually lead to Beijing using force. The flexibility exercised by China, in order to avoid a costly and unwanted war, may appear to Taipei's administration as limitless, but after some time, there will come a point when Beijing will respond forcefully to another small Taiwanese step asserting its independent existence.

In deciding whether or not to use force against Taiwan, the most important drivers for Beijing will be the realist cost-benefit calculations. A proper understanding of such costs, which are detailed in this volume, should be a major constraining factor. However, Chinese calculations will be based upon those made by their own policy makers and advisors, rather than anyone else's assessments. This means that if the Chinese government has to make such a fateful decision it will be affected by the miscalculations and misunderstandings of its policy makers and advisors of the outside world, and in particular as influenced by the emotionally blinding force of Chinese nationalism. It will also be affected by considerations over the survival of the communist system, also described as the pre-empting of "national disintegration" by prominent scholars like Yan Xuetong.[17]

Given the ramifications of a major military conflict across the Taiwan Strait, no Asia-Pacific power can afford to see its materialization. It is in the interest of everyone to minimize any Chinese miscalculation, and to help Chinese policy makers and advisors to see the wider implications and consequences of the use of force, with the least amount of distortion.

Notes

1 June Teufel Dreyer, "China's Ability To Take a Military Option and Its Calculations," in Steve Tsang (ed.) *Peace and Security Across the Taiwan Strait* (Basingstoke: Palgrave Macmillan, 2004), 147.
2 Steve Tsang, "China's Failure in Diplomacy," *Far Eastern Economic Review,* 20 February 2003.
3 For an exposition of such a view, see Guangquan Peng, "The Reorientation and Development of China's Taiwan Policy" *China Strategy,* vol. 3, 30 July 2004, 34–8.
4 Chen Youwei, Tiananmen Shijian yu Meiguo waijiao neimu (Taipei: Zhengzhong chubenshe, 1999) 56.
5 PoliticsOL.com editorial "U.S. Needs to Be Crystal Clear Re: Taiwan," 22 April 2001, http://www.politicsol.com/editorials/editorial-200l–04–22.html.
6 Zhang Dazhong, "Jiejue Taiwan wenti de zuijia shiji," *Xin Bao* (Hong Kong), 29 May 2004. See also Chapter 5 for evidence that some in Beijing believe a decapitation operation can force Taiwan to capitulate.
7 The term has now been used by Alan D.Romberg for his book, *Rein in at the Brink of the Precipice: American Policy Toward Taiwan and US-China Relations* (Washington: The Henry L.Stimson Center, 2003).
8 In March 2005, President Chen Shui-bian claimed that China had 706 missiles aimed at Taiwan (Central News Agency report dated 3 March 2005). The Chinese had 500 SRBM at the end of 2003. If Chen's information is correct and he was referring only to SRBM, the rate of increase in Chinese SRBM is higher than most estimates, which puts it at about seventy-five per year. See Chapter 4 for a detailed analysis.
9 In the case of the Orion aircraft, they will be clay pigeons to the PLA unless they receive effective protection from Taiwan's air force.
10 Hamish MacDonald, "US Reveals China Arms Build-up," *The Age* (Melbourne), 7 March 2005.
11 See Tables 11.1 and 11.2 in Chapter 11 for the top ten trading partners of China.
12 Steve Tsang, "Strategy for Survival: The Cold War and Hong Kong's Policy towards Kuomintang and Chinese Communist Activities in the 1950s," *The Journal of Imperial and Commonwealth History,* vol. 25, no. 2 (May 1997).
13 Steve Tsang, *A Modern History of Hong Kong* (London: I.B.Tauris, 2004).
14 For an examination of how this concept of a peaceful rise came about and is being debated within China, see Robert L.Suettinger, "The Rise and Descent of 'Peaceful Rise'," *China Leadership Monitor,* no. 12, fall 2004, http://www.chinaleadershipmonitor.org./20044/rs.pdf
15 The same applies to the British decision to invade the Suez Canal in 1956, when Prime Minister Anthony Eden's consuming personal hatred of the Egyptian leader Abdul Nasser drove Britain to join the French and the Israelis in this military adventure, even though the British case for war could not be justified on rational or objective national interest grounds.
16 Willy Wo-lap Lam, "A House Divided: Contentious Politics within the CCP," *China Brief: A Journal of News and Analysis,* vol. IV, issue 16, 5 August 2004.
17 Yan Xuetong, "Origins of the Policy to 'Pay any Price to Contain Taiwan's Independence', "*China Strategy,* vol. 3, 30 July 2004,41.

Part I
POLICY FRAMEWORK

2

POLITICAL AND MILITARY FACTORS DETERMINING CHINA'S USE OF FORCE

Maochun Yu

Is there an inexorable logic to the People's Republic of China's (PRC) policy toward the use of force? Are there definitively identifiable factors that will determine China's ultimate utilization of force against Taiwan? These are difficult questions, for the simple reason that there are so many contingent factors that are constantly changing and regrouping. While there is no normative formula that provides a definitive answer, there are indeed many discernible conditions or factors that collectively influence the PRC's policy over the use of force against Taiwan. These factors are neither static nor isolated from each other. Rather, they exist in a dialectical fashion, often codependent and contradictory at the same time. This chapter attempts to analyze several such factors.

Lessons from history

Any current study of PRC policy toward Taiwan would be inadequate if it did not include a historical analysis of China's conventional approach to conflict resolution. Many scholars have made important contributions in dissecting China's propensity for the use of force in conflict resolution. By writing from the perspective of macro history, Alastair Iain Johnston has documented a Chinese "Cultural Realism"[1] which emphasizes offensive action as the preferred way to end geopolitical disputes. By examining official documents from several dynasties in imperial China, Johnston shows a clear pattern of inherent militarism within the Chinese historical consciousness. This pattern of "Cultural Realism" tends to regard war as the primary means to conduct inter-state and inter-regional relationships.

Also called "active defense," "coercive diplomacy," or "coercive strategy," the PRC's attitude toward Taiwan has been consistently within this domain of historical "Cultural Realism," where war and the use of blunt force remains the ultimate option for ending the decades-long standoff between the communist state and the *de facto* independent government of Taiwan.

In an attempt to revise his earlier work on the PRC's reluctance to use force in international relations, in light of newly available materials, due to the collapse of the Soviet Union and the latest developments in the PRC's aggressive actions in the Taiwan Strait region, the veteran analyst Allen S. Whiting has carefully studied eight major conflicts that the PRC has been heavily involved in. These conflicts include the Korean War (1950–3), the Vietnam War (1965–8), conflicts with India (1962), the Soviet Union (1969), and Vietnam (1979), and especially the military threats against Taiwan in the Quemoy-Matsu crises (1954 and 1958) and the missile firings and joint exercises near Taiwan (1995–6).

Whiting's new study underscores the risk-taking propensity of the PRC government when it comes to the issue of using force against Taiwan. "From 1950 to 1996," Whiting concludes,

> Beijing gave priority to political goals of deterrence and coercive diplomacy in PLA deployment. This pattern cautions against sanguine assumptions that the risk of fighting US forces over Taiwan, combined with the associated economic costs, precludes China's future use of force there.[2]

Ellis Joffe, another veteran analyst of Chinese military affairs, concurs with Whiting and goes even further in predicting the likelihood of the PRC's use of force against Taiwan based upon its historical record.

> Among the major powers of the world, China and its leaders are most inclined to use force to settle diplomatic conflicts. They would use force deliberately, not recklessly; they would use force to intimidate other nations, even when they lack a military parity with their opponents, as in the cases of entering the Korean War, fighting with India, or dealing with the Taiwan crises. This pattern will continue to exist in the future.[3]

On the other hand, China's aggressive approach to Taiwan and its propensity for using force have been tempered by historical antithesis. In this regard, there are two central strands to the PRC's collective memory. The first deals with the PRC's record of military fiascos on island offensives, against Kuomintang (KMT) defenders, in various campaigns. For example, the 1949–50 campaign against the KMT-held island of Quemoy failed miserably, costing the PLA 10,000 soldiers. The second strand of the historical antithesis is the steadfast support of the US toward Taiwan's defense. Irrespective of the political debates regarding the wisdom of US actions in fiercely allying with Taiwan during the two 1950s Quemoy-Matsu crises and afterwards, the US armed forces, in particular the Navy, have achieved one of the most successful records of deterrence-through-force actions in recent history. It is the constant presence of the US military deterrent in the Taiwan Strait that has prevented the PRC from resorting to the use of force against Taiwan in the past several decades. In assessing the PRC's strategic culture and

coercive diplomacy, we should not ignore this vital capability gap—and the keen awareness of it—on the part of the mainland communist government.

China's new security agendas

For the most part, the PRC's obsession with the "liberation" of Taiwan, also referred to today as "unification" with Taiwan, has made it a matter of parochial or regional interest. That is to say, as an issue limited to two Chinese political parties competing for the right to rule the Chinese population, its relevance has rarely reached beyond the general domain of the Taiwan Strait. The PRC has traditionally regarded the Taiwan issue as an unfulfilled mission of the civil war against the Kuomintang government. While this pattern of internal struggle has made the Taiwan issue the top priority for nationalistic unification, it has rarely been included as a part of the PRC's global security agenda. This is in sharp contrast to the US view, which has tended to regard Taiwan as an issue that embodies far greater implications "for the whole Asian-Pacific region and the character of China's future international role," let alone the US's global anti-communist efforts.[4] The fifty-five-year standoff across the Taiwan Strait reflects this clash of differing strategic visions, i.e. the PRC's nationalistic agenda versus the United States' global agenda.

In recent years, however, the significance of the Taiwan issue within the PRC's high command has changed considerably with the remarkable rise of Beijing's global security agenda. Thanks to its sustained robust economic development and its growing role in global commerce and diplomacy, China has begun to realize that there are new strategic concerns more urgent and pragmatic than the rhetorically important "national unification" issue that has been stalemated for decades. Chief among these is China's "economic security" and energy security.

This shift has even led some of Beijing's chief analysts to challenge the centrality of the Taiwan issue in China's international relations. They argue that China's global economic interests, rather than the antiquated internecine struggle with Taiwan, should define PRC national security. "China's strategic emphasis should be shifted from territorial defense toward the safeguarding of China's economic and commercial interests all over the globe," advocates Guo Feixiong, one of China's strategists.[5]

He and an influential group of strategists argue that the US has harbored a hostile strategy against China because the US always bases its national interests upon its global economic interest. They go on to say that China should therefore respond in kind.[6] While the supreme leadership of the Chinese Communist Party (CCP) still openly champions an "economic development first and everything else second" national strategy, a new awareness that intrinsically connects economic development with developing a strong military force is gaining credence among PRC elites. "Equal weight should be given to economic development and national security," says Yang Fan of the Chinese Academy of Social Sciences (CASS), "as we become more prosperous, we must concentrate our forces."[7] With its growing economic influence in the world, China now faces two main enemies, the United States and Japan, the world's number one and number two economic powerhouses.

More specifically, the new battlefield for this global struggle of Chinese national interests abroad is the world oil industry. While China has surpassed Japan to become the world's second largest consumer of oil, Beijing has virtually no strategic oil reserves to protect its exuberant economy from collapse during times of energy crisis. In fact, China's capability for oil production falls short of its own robust demands, forcing it to seek oil imports and energy sources abroad. "Once confined to Asia, Chinese interests now span the seas," reports the *Washington Post,* "more than 50 percent of imported oil comes from the Middle East, and China's energy investments range from Sudan to Venezuela and Kazakhstan."[8]

China, however, sees the United States as a major stumbling block in its efforts to obtain its fair share of the world's oil and gas. Some leading security experts in Beijing have interpreted recent US strategic decisions and behavior in the global arena, as China-related, energy-based schemes.[9] As China's sea lanes of communication (SLOC) for oil imports have become severely threatened, China's leading economic journal, under the direct aegis of the State Council, has even begun to contemplate a $20 billion isthmus canal project through Thailand, to bypass the "US-

controlled" choke point of the Strait of Malacca.[10]

While the energy war with the US remains on a hypothetical level at the moment, the geopolitical battle for energy security with Japan has already intensified. Particularly poignant is Japan's effort to thwart the Russian-Chinese plan to build a 4,000-kilometer-long pipeline from Russia's oil-rich Angarsk to the Chinese oil-refinery city of Daqing. In July 2003, Prime Minister Junichiro Koizumi ordered Japanese officials to "press full steam ahead with Russia" to prevent the Sino-Russian deal, and offer the Russians a $5 billion package to build an alternative pipeline that would bypass Chinese territory altogether, via a detour across Siberia, to reach the Pacific port of Nakhodka by the Sea of Japan.[11] In the meantime, China is also actively building a new alliance of its own in Southeast Asia, to counter the US-Japan alliance in the Asia-Pacific region. "With its booming economic power as its overseas spearhead, China is now moving stealthily toward establishing a common Southeast East Asian security community," observes the *Far Eastern Economic Review*.[12] Furthermore, Chinese naval vessels are reported to have been spying on Japanese coastal waters, causing significant unease in Japan and giving rise to hawks who argue strongly for a Japanese military buildup as a means of countering the Chinese military threat.[13]

China's gradual shift in security priorities, away from an overwhelming focus on Taiwan, toward stressing global economic and strategic competition, has to a certain extent diluted the intensity of the regional nature of the Taiwan issue in the eyes of Beijing. The Taiwan issue is increasingly being seen as part of China's global strategy for combating a hegemonic United States and its chief allies in the world.

This shift, therefore, has had a significant impact upon Beijing's consideration of whether to use force against Taiwan in two major respects. First, as the PRC is beginning to realize that the use of force against Taiwan will necessarily draw the US into the conflict, it will need to spend more time matching the military power of the United States. This is not only delaying China's utilization of force, it is also providing further persuasive power to Deng Xiaoping's national policy of *taoguang*

yanghui ("bide our time and build up our capabilities"). Second, and ironically, it is precisely because of the rise of this global dimension of China's security policy, that Taiwan has become a strategic choke point to China's "stepping out of Asia" drive, thus creating the need to solve the Taiwan issue as quickly as possible.

As a result, by the late 1990s, Beijing began to display increasing intolerance and angst in order to ensure that the Taiwan issue does not drag on indefinitely. In speaking to the official PRC publication, *Global Times (Huanqiu Shibao),* the PLA naval strategist Jiang Zhijun states:

> Once the Taiwan issue is resolved, all of China's strategic maritime safety concerns would automatically dissipate. Taiwan is China's ideal seaward exit way bequeathed to us by our ancestors. As long as Taiwan is in China's hand, then the Pacific would be China's open field to the east. Taiwan itself is a key link in the "first island chain." After Taiwan is reunified with China, this "first island chain" blockade [by the US] will be broken, enabling Chinese troops to expand their defense lines out to the East into the Pacific in order to better protect the safety of China's coast and mainland. By that time, the Taiwan Strait would have become a safe and convenient route of communication for transporting troops and supplies between north and south.[14]

In sum, China's new security agenda has reduced the parochial nature of the Taiwan conflict, to make it a part of its global ambition. This requires preparation for a larger war with more formidable global opponents, thus delaying any immediate launch of armed conflict against Taiwan. At the same time, preparation for a larger war has also made Taiwan the center of a strategic choke point, one that PRC strategists desperately want to obtain, adding further urgency to the argument that force must be used to take Taiwan. These two new strands in China's security strategy act as a dialectical duo in effectuating Beijing's policy of using force against Taiwan.

High-level power struggle

The proverbial statement that war is merely an extension of domestic politics still generates much agreement, especially on the issue of Taiwan. With the waning of communism as a dominant ideology in China, new approaches to legitimizing the regime and its rule have to be found. Many have suggested that the PRC leadership's enthusiastic embrace of nationalism, as of late, has been the motivating force behind Beijing's key decision to bully the democratic island, which has enjoyed *de facto* independence for the past fifty-five years. In the recent military intimidation campaign against Taiwan in 1995 and 1996, Edward Friedman sees nationalism as a chief reason behind PRC saber-rattling, not as a goal to unify the nation, but as a means to buttress the CCP's increasingly hollow claim to legitimacy, which has traditionally been based on the lofty Marxist-Leninist ideology.[15]

Another example of domestic politics determining war policy comes from the PRC's incessant struggle for power at the highest level of the ruling elite. Since no one in the PRC high command can afford to appear vulnerable on the issue of "national reunification," every key leader in Beijing tends to compete fiercely to be seen as the most hawkish on Taiwan, and to gain more credit through nationalist appeals. John F.Copper convincingly argues that it was this political dynamic in Beijing that compelled the PRC leadership to collectively support the dangerous missile firings close to Taiwanese waters.[16]

Clearly, conflicting dynamics have emerged in this regard. On the one hand, a war with Taiwan has become increasingly irrelevant to the overall development of China's national agenda, which has been overwhelmingly focused on the economy, rather than on war and revolution. For example, soon after Chen Shui-bian became Taiwan's president, China's Jiang Zemin openly stated that economic growth was more important than the Taiwan issue.\ The PLA's top brass also frequently echoes the Party line by supporting the CCP's "economy first" strategy.[18] The possibility of being regarded by political rivals as "soft" on "separatists" in Taiwan, however, often drives these economy-minded PRC leaders to become

saber-rattling warmongers. Jiang Zemin's January 1995 "Eight Points" statement was generally perceived as soft and moderate, exposing him, while still under the political tutelage of the aging Deng Xiaoping, and therefore surrounded by rivals in Beijing, in vulnerable areas. This was a key factor in compelling Jiang, later that year, to "turn to coercive measures in order to survive Beijing's power politics", as we saw when Jiang ordered the PLA to fire missiles dangerously close to Taiwan.[19] Zhu Rongji, China's former Premier, was perhaps the most famous practitioner of survival politics. When his position and prestige were threatened. many believe Zhu, who had been most renowned for his pragmatism and non-involvement in hard-line policy toward Taiwan, suddenly became the most recognizable hawk against Taiwan during the contentious March 2000 Taiwan presidential election.

As for the "fourth generation" of the CCP "core leadership," under the moderates Hu Jingtao and Wen Jiabao, survival politics with regard to Taiwan has become even more pronounced. All of the nine Politburo Standing Committee (PSC) members are engineers with little to no experience of, and no special interest in, the Taiwan issue, which has been a hallmark specialty of the stealthily more powerful CMC chairman Jiang Zemin. Soon after assuming the Premiership, Wen Jiabao repeatedly and steadfastly stated that his top priority was China's economic development, and that in order to achieve such a goal, he planned to keep China at peace with all peripheral regions "at any cost." In light of the robust political developments on the island of Taiwan, Wen was soon criticized for being too soft on Taiwan. Since then, he has often spoken simultaneously about maintaining peace and waging war against an independent Taiwan, both "at any cost."[20] As the 2004 Taiwan presidential election approached, China's otherwise moderate politicians also gradually began to express hawkish bravado against Taiwan. In an internal policy circular before the election, President Hu Jingtao unequivocally admonished that it was up to Taiwan residents to choose between peace and war in the election. Hu is reported to have said that "we must let Taiwan compatriots know that the future of Taiwan lies in

their hands…and the ballots they cast next March could determine whether there will be peace or war."[21]

In a political system where surviving power struggles often dominates the agenda of national leaders, a consensus on the issue of the use of force against Taiwan could easily be reached, and therein lies the danger.

Input from the PLA

Closely related to the power struggle theme is the unique role that the PLA plays in Beijing's deliberations over whether to use force against Taiwan. The cardinal principle of the PLA has been its absolute obedience to the CCP. "The Party commands the gun," as Mao Zedong famously stated, but who represents "the Party"? The logical answer would be the CCP General Secretary, who chairs the Politburo Standing Committee (PSC), and presumably has power over the CCP's Chairman of the Central Military Commission (CMC). In reality, however, the CMC often exerts the ultimate decision-making power in China's top leadership, overshadowing the Party General Secretary. This situation creates the opportunity for a power struggle within the CCP.Mao Zedong and Deng Xiaoping reigned supreme within the CCP power hierarchy in past decades, not because they represented "the Party" that commands the gun, but because they controlled the gun by clinging to the CMC Chairman's position. Therefore, the Chairman of the CMC is China's *de facto* supreme authority.[22]

Unfortunately, despite the current concentration of the roles of Party chief and Chairman of the CMC in one man's hand, the norm in CCP history is a split leadership at the highest echelon of the CCP regime, with one man in charge of the Party, the other in charge of the CMC. The latest example of this is the Jiang Zemin/Hu Jintao struggle for control of the gun.

After the 16th CCP Party Congress and the March 2003 National People's Congress (NPC) meeting, China is said to have completed the leadership transition from its "third generation core leadership," symbolized by Jiang, to its "fourth generation core leadership" now under the helm of Hu Jintao. This transition was an incomplete one for the simple reason that Jiang Zemin remained Chairman of the CMC, while the New Core leader Hu Jintao became the less powerful General Secretary of the CCP.[23]

Thus any decision regarding the use of force against Taiwan would more than likely be made by the CMC under Jiang Zemin, where

professional military officers had prominent representation, while none of the nine PSC members under Hu Jintao had any experience of, or significant connections with, the PLA.

For over a year this political arrangement in Beijing undoubtedly complicated the decision-making process when it came to the problem of Taiwan. Even though Hu Jintao was appointed the Chairman of CCP Central Committee's Leadership Group on Taiwan Affairs, he doggedly followed Jiang's policy framework on the Taiwan issue, and did not reveal any new ideas of his own.[24] Consequently, China's decision over the use of force against Taiwan was mostly formulated within Jiang Zemin's Central Military Commission.

There are two important fallouts from this split leadership phenomenon. On the one hand, with the ascendance of the new and younger leadership, the old guard of the Party that normally tries to cling to power may use their military relations as a bargaining chip to strengthen their influence in a heated competition for political relevance. In the specific case of the Jiang/Hu succession drama, the PLA provided important support for keeping Jiang Zemin in power, as CMC chief, during the "trans-generational" transition in the PRC leadership. It was reported that on 14 November 2002, during the 16th Party Congress, a group of PLA generals led by CMC Vice-Chairman and Jiang Zemin's crony Zhang Wannian, forced a "special motion" signed by the twenty PLA members of the 16th Party Congress Presidium which "requested" that Jiang remain as the chairman of the CMC and demanded that Hu and other Presidium members agree.[25] At the height of the power struggle, the Commanding General of the Beijing Military Region, General Zhu Qi, published an article in the official journal *Qiushi* ("seeking truth") openly advocating Jiang's continued chairmanship of the CMC, and pledging the PLA's absolute loyalty to "Chairman Jiang."[26]

After Jiang secured his CMC chairmanship, the PLA played along quite satisfactorily, by displaying profuse loyalty to "Chairman Jiang." Under Jiang's control, the PLA greatly intensified its political study of Jiang Zemin's "Three Represents Theory."[27] In late July 2003, the CMC

issued to the entire PLA a Mao-era style dogma pamphlet, called "The Study Guide to Jiang Zemin's Defense and Military Construction Thought" for the PLA rank and file to implement.[28] Reminiscent of Mao Zedong's early 1960s effort to turn the PLA into a political sloganeering machine in support of his own personal glorification and machinations for power, Jiang Zemin made the PLA his own power base through which he could continue to exert influence on key national policies. "Some [PLA] units spend 30 percent of their training time studying politics," reports the *Washington Post*. "Sometimes it seems that sloganeering is the main task of the PLA."[29]

In a split leadership situation, with the military as the only meaningful power base, whenever the chairman of the CMC feels his position is threatened by his political rivals, it becomes more likely that, in order to gain publicity and political relevance, he will use the PLA as an agenda-setting mechanism to launch adventurous offensives against Taiwan. This is evidenced by the circumstances of the missile crises of 1995 and 1996.[30] If the Chairman of the CMC is a career politician rather than a career military man, such as in Jiang Zemin's case, he is more likely to rely on the more hawkish PLA generals to buttress his military credentials as Chairman of the CMC. In a political environment where he is surrounded by hawkish generals, and in order to compensate for his perceived "softness" on reactionaries and "splitist scum of ten thousand years," he is more likely to behave recklessly or condone reckless behavior by his generals on matters related to Taiwan.[31]

Fortunately, after much uncertainty, which was agonizing for the Chinese nation, Jiang Zemin quit the chairmanship of the Party's CMC in September 2004 and eventually handed over the position as Chairman of the state CMC in March 2005. But Hu Jintao has no power base strong enough in a military full of Jiang cronies to feel completely secure. He will have to cultivate his own support within the military by yielding to many of the military's demands, especially on issues related to Taiwan. The completion of the transition still invites worries and concern. When the time comes a few years down the road when it is Hu's turn to give up

power to the next generation of leadership, it is likely that he will create another split leadership imbroglio and repeat the cycle of history in the CCP's power transition pattern.

Cross-Strait economic engagement

No one can deny the obvious fact that great economic engagement has occurred between the PRC and Taiwan since 1990. The volume of mutual trade and Taiwan's investment in China has risen steadily and to a substantial level. The question therefore, is whether this profound economic engagement between China and Taiwan has created a level of economic interdependence that can ultimately serve as a deterrent factor and thwart the possibility of war. In answer to this question, several key studies have come to a rather surprising conclusion: that the intense political/military interactions between Beijing and Taipei have little impact upon the growing economic interdependence, and vice-versa. If anything, the gap between mutual political distrust and economic interdependence has grown even larger: there is "growing economic interdependence and continuing political divergence," as one scholar terms it.[32]

More recent studies have further disputed the notion that cross-Strait economic ties can either act as an agent of change for a more democratic and liberal China, or act as a Trojan horse for the PRC for the final takeover of Taiwan by the PLA.[33]

This disconnection between political/military sectors and deepening economic interdependence bears serious implications for the PRC's decision to use force against Taiwan. First, precisely because of the relative irrelevance of growing economic interdependence and political/military interaction, both Beijing and Taipei could potentially be more reckless and carefree when a military decision has to be made. In fact, of the six potential losses China would suffer, with a PLA attack on Taiwan, and as carefully calculated by PLA General Peng Guangqian, economic relation with Taiwan was not even directly mentioned. Instead, the PRC seems to be more concerned about the fate of China's right to host the 2008 Olympics and the 2010 World Fair, rather than the fate of the cross-Strait economic relationship.

Furthermore, because cross-Strait economic engagement runs primarily one way (i.e. Taiwan has provided the overwhelming majority

of exports to and investment in China rather than the other way around), should a crisis begin, China has far less to lose than Taiwan. As Ramon Myers reports, citing official statistics, "Taiwan's exports [to China] rose from $7.4 billion in 1990 to $30.8 billion (4.1 times) in 2002, whereas imports [from China] only rose from $2.7 to $4.4 billion (1.6 times)."[34] In addition, Taiwanese businessmen's foreign direct investment (FDI) in a politically hostile country has also seen a steady increase. In 2002 alone, approximately two thirds of Taiwan's entire foreign investment went to China, while the capital flow from China to Taiwan remained minuscule.[35]

This translates into leverage for the PRC to influence Taiwanese political development. The fact that such leverage has not been the dominating tool in past crises does not necessarily mean that it will not be used when the time is right. In fact, as the 2004 presidential election campaign in Taiwan heated up, and Beijing's testosterone level of political intimidation against Taiwanese voters rose, such leverage on Taiwanese businessmen in the PRC was blatantly utilized. Prior to the election date, the PRC security forces arrested Taiwanese businessmen as spies and coerced them into confessing their alleged crimes, as well as criticizing Taiwanese political leaders in front of the foreign press. In addition to this, the practice of arbitrary interrogations of Taiwanese businessmen, in the months leading to the election, increased dramatically. Such intimidation tactics caused certain panic within the half-million Taiwanese businessmen residing in China.[36] As a result, for the first time, the traditionally politically aloof Taiwanese business community in the PRC was forced to act as a pro-reunification political lobby. "The Taiwanese investors [in the PRC] have become a key player in China's strategy to use business ties to tightly bind Taiwan to China," reports the Associated Press agency, "they are also an important political constituency for Beijing…the businessmen have a huge vested interest in China, and they pressure Taiwan's government to be more sympathetic to Beijing's demands."[37] As Tun-jen Cheng demonstrates, the overwhelming majority of PRC-stationed Taiwanese businessmen retain

their political loyalty to Taipei and would prefer the current status quo of two separate governments under all circumstances.[38] Therefore, such Taiwanese business lobbies can only be interpreted as coerced, and much of the lobbying activities remain a bogus show of compliance with Beijing's hardball politics.[39]

In sum, the much discussed economic interdependence should not be over-estimated. In the final scenario of China going to war against Taiwan, it will most likely matter little; when the PRC decides to take military action against Taiwan, it will do so "at any cost," and will ignore the Taiwanese business connection with alacrity.

The significance of Taiwan's democratization

A growing consensus among the scholarly community is that the root cause of increasing tension between Beijing and Taipei is Taiwan's movement toward democracy since 1986.[40] What then does the Taiwanese democracy mean to China's proletarian autocrats in Zhongnanhai, when it comes to making a decision on the use of force against Taiwan? The answer is multi-facted.

In its public rhetoric, the PRC leadership has always insisted that the overwhelming majority of the Taiwanese people truly want reunification with the motherland, and that Taiwan continues to remain separate as a result of the trickery and diabolical scheming of the extremely few "splitist" politicians, such as Lee Teng-hui, Annette Lu and Chen Shui-bian. In reality, many of the true pro-China types in Taiwan do not want a military invasion of Taiwan by the PLA, and have often openly told Beijing so. Huang Shunxin, father of Taiwan's early 1980s grassroots democracy movement, and a daring member of Taiwan's Legislative Yuan, was a fanatic advocate for reunification. After his defection to Beijing in 1985, and after he became a member of the Standing Committee of the National People's Congress, and a heavyweight figure in the PRC's United Front against Taiwan, he told CCP Secretary General Hu Yaobang that if the PRC were to invade Taiwan through the use of force, he would go back to Taiwan to organize the resistance movement against the PLA.[41]

Taiwan's democracy has also become an education source for a growing number of Mainlanders, especially when compared to their own leadership in Beijing. Gradually, their attitude toward Taiwan has changed. One good example is how ordinary Chinese people responded to situations in Taiwan during the Severe Acute Respiratory Syndrome (SARS) crisis in the spring of 2003. Due to the anemic performance of the World Health Organization (WHO), with regard to Taiwan's SARS situation and its refusal to consider Taiwan's observer status in the organization, Taiwanese politicians reacted strongly against China's stonewalling and obstinacy. Remarkably, President Chen Shui-bian

threatened to resort to an island-wide referendum on WHO membership. Vice-President Annette Lu went even further to attack the Mainland regime, blaming the PRC for spreading SARS worldwide, demanding the PRC apologize to the world, and suggesting changing the name of SARS, or *feidian,* ("atypical pneumonia") to "Chinese acute pneumonia".[42] In the past, cantankerous actions such as these, by Chen and Lu, would surely have ignited an avalanche of condemnation from ordinary Chinese people on the street and on the internet Yet, the response to Taiwan's outrage during the SARS crisis was remarkably inconsequential, and virtually non-existent among the usual "superpatriot circles," such as the college campuses.[43] With the glaring lack of democratic virtues demonstrated by their own government in Beijing during the crisis, the virtues of Taiwan's rambunctious democracy have become increasingly hard to ignore. If the "Taiwan Experience" of democracy becomes admired by the ordinary Chinese, it would be much harder for the PRC ruling leadership to use force against Taiwan as a measure to appeal to nationalism; by then, the ultimate regime legitimacy would come from *vox populi,* rather than from chauvinistic nationalism.

Thanks to over twenty years of economic opening and exposure to the outside world, ordinary people have become increasingly apathetic toward official party propaganda and bland patriotic indoctrination. Such a popular awakening from proletarian stringency will make it harder for the PRC leadership to mobilize public support for a future war against Taiwan. Recently, when a group of diehard Taiwan experts from the PLA's Academy of Military Sciences spoke before a national audience, to boost the PLA's case for taking military action against Taiwan sooner rather than later, the audience completely ignored the hawkish call to arms by the generals and senior colonels on the panel, and instead queried with great concern the issues of cost, the potential impact on food prices, and the possible horrendous retaliations against ordinary residents in key cities.[44] Gone were the traditional ultra-nationalist outbursts, and solemn pledges from the audience to "stick[ing] tightly to the Party's central leadership." One could almost sense from the audience the subtle

disapproval of taking military action to invade Taiwan.

The impact of Taiwan's democracy on the PRC populace, however, and the extent that it has trickled, in any decisive way, into the decision-making process of the PRC high command, should not be exaggerated. This is so for two reasons. One is that the Taiwanese political leadership has been remarkably uninterested in actively "exporting" Taiwan's democracy to the mainland. Rather, the prevailing approach in Taipei in this respect has been a "hands-off" policy of disengagement, particularly with regard to supporting China's overseas pro-democracy elements. Second, the PRC propaganda machine has consistently dismissed the Taiwanese democratic practices as a "sham" and "bogus," and motivated by ulterior schemes for Taiwanese independence. Premier Zhu Rongji has repeatedly chastised Taiwan's democracy as a "joke."[45]

On the other hand, the rapid growth of democracy in Taiwan has made the CCP-KMT rivalry, the root of the PRC's decades-long Taiwan policy, increasingly irrelevant. Taiwan's democracy, as a result, poses an additional and far more direct challenge to the PRC's calculations for the use of force against Taiwan. As it facilitates the withering away of the theatrical nature of the Taiwan issue for the mainland, this irrelevance should at least create some form of panic within the PRC leadership. For decades, Taiwan has served as a theatrical partner for the PRC to act out the surrealistic drama of "national reunification." In 1958, with Machiavellian shrewdness, Mao Zedong explained to his personal physician how this theatrical scheme worked. "Some of our comrades don't understand the situation. They want us to cross the sea and take over Taiwan. I don't agree. Let's leave Taiwan alone. Taiwan keeps the pressure on us. It helps maintain our internal unity. Once the pressure is off. internal disputes might break out."[46] Now China's theatrical partner has decided to quit the stage and go its own way. In addition, the "reactionary" KMT has lost power in Taiwan, and the extent to which the PRC can demonize the virtue of a democratic Taiwan in front of an increasingly discontented domestic populace is extremely limited. Furthermore, both the KMT and CCP are avid practitioners of behind-the-

door elite politics, i.e. they are both accustomed to high-level secret negotiations on important matters. With the ascendancy of democracy in Taiwan, this elitist political practice has been rejected and Taiwanese leaders would be shunned for making any secret deal with the autocratic PRC elites. Rather, what ultimately matters to a democratic Taiwan are popular votes. This has resulted in a fierce dispute over Taiwan's referendum during the island's contentious 2004 presidential election, which further infuriated the PRC leadership. As the communist leaders are profoundly afraid of, and cannot accept the will of the majority of the Taiwanese electorate, all this has contributed to the urgency and transformation of cross-Strait relations from theatrical drama into a real armed struggle.

The US factor

One other dimension of the Taiwan issue that should not be ignored is its utilitarian value for the all-important US-China relationship. From the PRC perspective, an unresolved Taiwan situation between the US and China has great theatrical and utilitarian value. Again, speaking to his personal physician in 1958, Mao Zedong opined,

> if we take [Taiwan] over, we lose our link. Doesn't everyone have two hands? If we lose our two hands, then Taiwan is no longer in our grip. We let it slip away. The islands are two batons that keep Khrushchev and Eisenhower dancing, scurrying this way and that. Don't you see how wonderful they are?[47]

As Washington plays a crucial role in China's calculation of using force against Taiwan, a brief analysis of the US position here is necessary. For many in the US, the Taiwan issue has served as a bargaining chip in negotiating difficult matters with the PRC, or alternatively as an outlet for anti-communist sentiment within American society. There are principles involved of course, but as the recent US executive repudiation of Taiwan's plan for a defense referendum illustrates, when "national security" interests are at stake, US presidents often sacrifice these principles. In many instances, the Taiwan issue has become a convenient theatrical cover for both the US and China to avoid hardcore issues of substance, such as trade regimes, human rights, and arms control. If there were no such theatrical convenience as the Taiwan issue, the Sino-US relationship would have become much more intense, as both sides would then be forced to deal with some difficult and substantive issues.

Consequently, the very nature of the Taiwan issue has blinded US policy toward Taiwan in several aspects. First, while the US openly endorses the Taiwanese democracy in principle, the US government has failed to acknowledge what a Taiwan democracy means to the Washington-Beijing-Taipei relationship. Added to this, because of its democratization, Taiwan is no longer a docile factor in this all-important

strategic triangle. Democracy in Taiwan has bred a powerful dynamic that demands self-respect and international dignity, and has increasingly engendered a popular sentiment for political independence. In this regard, the fundamental incompatibility of the PRC's communist authoritarian system, and Taiwan's exuberant democracy, must be incorporated into all US policies related to China and Taiwan. Any wavering on these matters will only further degrade the situation. At the end of the day, the US must take a stand for democracy, and insist on the articulation of the fallacies of the "one country, two systems" framework. This is because the root of all problems lies in the diametrically opposed nature of these two systems.

The other inadequacy of US policy toward Taiwan, is the insufficient level of awareness that, with the potential for US intervention, the PRC has a limited capability in dealing with Taiwan. It is important that the US stands firm behind Taiwan because it is the best way to prevent any military adventurism in the Taiwan Strait.

Owing to the fear felt for a rising authoritarian China among the Asia-Pacific democracies, such a firm stand for Taiwan is even more important. Further repudiation of Taiwan's democratic practices by US government officials will cast dangerous doubts in the minds of friends and allies in the region. The US will not be trusted as the ultimate guarantor of democracy in Asia, politically or militarily. The natural result will be a new round of arms races by these democracies, including Taiwan and Japan.[48]

All in all, we should no longer take comfort in "strategic ambiguity," as any form of ambiguity on the Taiwan issue will only encourage military adventurism. North Korea's invasion of South Korea in 1950 and Iraq's invasion of Kuwait in 1990 both wreaked havoc on the US and in the respective regions. In addition, both were caused in a fundamental way by the ambiguity of official US policy prior to the conflicts. As the very presence of US deterrence in the Taiwan Strait is the ultimate factor in thwarting China's use of force, history indeed should not be repeated in the Taiwan Strait. In fact, Jiang Zemin has bitterly pointed out the

obvious, that “the essence of the Taiwan problem is China versus the United States. Had there not been the United States in the middle, we would have Taiwan reunited long ago.”[49]

To conclude, all the factors presented here have the potential to influence China’s decision to use force against Taiwan. Some factors, such as an internal CCP power struggle and the Party-PLA relationship, are intrinsic to China’s political system, and have over the past few decades provided a steady impetus for military action against Taiwan. Barring the collapse of the CCP regime, these internal factors will be difficult to change. However, factors such as democratic development in the Taiwan Strait, the US defense umbrella of Taiwan, and Washington’s unambiguous support of democratic movements in Asia, are external elements that could prove even more crucial in influencing Beijing’s position on going to war against Taiwan. All in all, the most meaningful is the ultimate factor that has played a central role in deterring Beijing’s military action for the past five and half decades, i.e. the defense pledge of the United States to safeguard a peaceful resolution of the increasingly tense Taiwan Straits situation.

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3

THE US POLICY OF DUAL DETERRENCE

Richard Bush

Introduction

The mini-crises occurred like clockwork. Some event on Taiwan led China to respond with dire warnings. Tensions rose, the United States (US) inserted itself, and soon tensions declined. The triggers for these mini-crises are well known: President Lee Teng-hui's 1995 visit to the United States; his 1999 "special state-to-state" formula; the presidential election of 2000; and the 2003–4 presidential campaign. What is less understood is the United States' role of dual deterrence. In each of these episodes, Washington sought to constrain both Beijing and Taipei from actions that might spiral toward a conflict that would damage its own interests in peace and stability in the Taiwan Strait. Dual deterrence is not an easy job, in part because there are competing American interests at play: respect for a fellow democracy— Taiwan—versus economic and foreign policy benefits of a cooperative relationship with China. As one of the most difficult tasks that the United States faces, this paper explores the dimensions of this challenge.

In this chapter, I explore several dimensions of Washington's dual deterrence burden: the sources and approaches of American policy; the security dilemma that plagues cross-Strait relations; the core political dispute between Beijing and Taipei, and how, in this set of circumstances the United States has sought to constrain the two sides from entering into conflict.

American policy: sources and approaches

To provide proper context, it is worth examining the sources of American policy and the various approaches that Washington has taken with respect to the Taiwan Straits issue.

Sources

We begin with the US "One-China policy," one of the least understood aspects of American foreign policy. Many regard the One-China policy as a set of rigid principles from which more detailed policies have been derived. Analysts therefore pore over the "sacred texts" of US-People's Republic of China (PRC)-Taiwan relations attempting to discern what those policies are, consuming much time and ink in the process. Beijing and Taipei, of course, play the principles game, arguing from their preferred texts what US policy should be. The PRC bases its demands on the communiqués of 1972, 1978 and 1982. Taiwan grounds its expectations in the 1979 Taiwan Relations Act (TRA) and other American commitments. Both emphasize the principles that accord with their respective interests and attempt to bind Washington to them. Simultaneously, each de-emphasizes and diverts the United States from those principles that undermine their goals.

This view of the US One-China policy is correct, but only in a limited sense. It best applies to the American approach to PRC membership in international organizations, where membership requires statehood, and to its conduct regarding bilateral relations with Taiwan upon an unofficial basis. In short, the word "one" in the "One-China policy" indicates that Washington does not have a two-China policy in these two respects. Yet it has not taken a position on what "one" means substantively for the possible unification of Taiwan and China. The US government has remained silent on the key question of whether the Taiwan government possesses sovereignty, which is one reason why it has never adopted a clear position on the "one-country, two systems" formula. At the same time, these commitments have neither stopped the United States from conducting a substantive relationship with Taipei considered more robust than its ties with many countries with which it has diplomatic relations, nor has it deterred the Bush administration from supporting Taiwan's proposal that it be an observer in the World Health Organization.

For the most part, however, the US One-China policy is not a tight, linear argument that starts from first principles and follows a deductive

logic. It is rather a set of rhetorical elements that must be read together, but which vary in relative emphasis over time. This includes the affirmation of the One-China policy itself; the three US-PRC communiqués; the Taiwan Relations Act; an insistence on peaceful resolution; continued arms sales to Taiwan; non-support for "two Chinas" or "one China, one Taiwan"; non-support for Taiwan independence; non-support for Taiwan's membership in state-based international organizations; the so-called Six Assurances, and a recognition of the need for the assent of the people of Taiwan for any cross-Strait solution, and so on.

It is worth noting that these elements are not necessarily mutually compatible. The 1982 communiqué is arguably inconsistent with the Taiwan Relations Act (Beijing certainly thinks so). Second, Washington flexibly combines these elements in various permutations and groupings in accordance with its assessment of the circumstances of the times. For example, as American Institute in Taiwan (AIT) chairman, I went to Taiwan in July 1998 to report on Bill Clinton's just-concluded visit to China and to make the case that US policy had not changed, I asserted that all these elements continued to guide US policy. In July 1999, after Lee Teng-hui's "state-to-state" announcement, the Clinton administration enunciated its "three pillars": the One-China policy, peaceful resolution, and the need for dialogue. In June 2003, George Bush reportedly pointed to five elements: the three communiqués; the TRA; no support for Taiwan independence; helping Taiwan defend itself to the extent possible; and providing necessary defensive weapons.

A word is in order on what the Taiwan Relations Act means. The authors of the TRA sought in subsections 2(b)(4) and 2(b)(6), and section 3(c) to create something of an analogue to the 1954 mutual defense treaty. The three elements of this analogue were as follows:

- It was US policy to consider any effort to determine the future of Taiwan by anything other than peaceful means, including boycotts or embargoes, as a threat to the peace and security of the Western Pacific area and of grave concern to the United States.

- It was US policy to maintain the capacity of the United States to resist any resort to force, or other forms of coercion, that would jeopardize the security, or the social or economic system, of the people on Taiwan.
- In the event of a threat to the security or the social or economic system of Taiwan (as well as a resulting danger to the US), the President was "directed" to inform the Congress promptly. The President and the Congress were then to determine, "in accordance with constitutional processes," the appropriate US response.

Although the TRA expanded the number of contingencies that might trigger a US response (the original treaty was limited to an armed attack) and set out a stronger role for Congress than was explicitly stated in the treaty, it was deficient in several important respects. Most importantly, whereas the treaty had binding force, the provisions concerning what PRC actions would trigger a US response and on maintaining the capacity to resist coercion, were merely statements of policy. Experts on legislative construction noted that when statements of policy are expressed as facts —rather than as prescriptions for action—they have no such binding force. Moreover, the treaty stated that an attack on one party would be regarded by the other party as a danger to its own peace and safety, and not just a matter of grave concern. The treaty was also more definite in that the party not attacked "would act to meet the common danger." On the other hand, the TRA only sets out a US policy of having the capacity to resist coercion against Taiwan; it does not provide an explicit commitment to use that capacity. Also, the treaty's reference to constitutional procedures left open the possibility of Congress blocking an administration's desire to respond. Yet the bias of the treaty is on the side of action, whereas the TRA is less clear-cut.

Constitutional scholar Richard Pious goes so far as to conclude that

> in operational terms, the United States has no real commitment to the security of Taiwan or even to its "social and economic system." What it has, according to the terms of the Act itself, is a

> process by which the United States may recognize and act upon its own security interests. That is all the Taiwan Relations Act requires.[1]

More significant, is how the One-China policy has evolved into a set of unstated operational guidelines that have governed the conduct of American policy for decades, all stemming from the fundamental US policy objective of preserving peace and stability in Asia, and from its long-standing role as guarantor of that objective. In order to prevent war and instability, and to preserve peace in the Strait, successive administrations have exerted continued influence on Beijing and Taipei. These unstated guidelines include: the prevention of a military imbalance between China and Taiwan; discouraging provocation by either side; maintaining the appropriate degree of ambiguity on the American use of force; discouragement of both over-confidence and lack of confidence; and the maintenance of public support in the United States for its policies.

American policy has therefore placed its emphasis on *process* rather than substance. Washington has long declared an "abiding interest" that the dispute be resolved peacefully, but has avoided saying anything on how it may be resolved. As a corollary, in order to pursue its fundamental policy objective in the face of changing circumstances, the United States has placed a premium on retaining flexibility. It has sought, by and large, to avoid being tied down by the principles of the various "sacred texts", should those principles ever run contrary to its fundamental objectives. For instance, a case can be made that the US violated the specific terms of the 1982 communiqué with the PRC on arms sales to Taiwan, when Beijing's arms acquisitions in the 1990s threatened to upset the cross-Strait military balance.

A final, enduring source of US policy must be noted. That is, Taiwan's penetration of the American political system though the cultivation of congressional support to serve as a check and a pressure on the executive branch. This began in the 1940s, and has continued to this day. Given the Republic of China's (ROC) dependence on the United States and its fear

of American abandonment, the desire to reduce that fear through a Capitol Hill strategy is understandable. However, this penetration has created problems. It creates a general resentment among executive branch officials, and occasionally leads to a test of wills between Congress and the White House over policy toward Taiwan and China. This is a structural problem common in many alliance relationships (most notably that with Israel). It can only be managed, never eliminated.

Approaches

How the United States has sought to preserve peace and stability in the Taiwan Strait has evolved over time, and in accordance with shifting circumstances. Dual deterrence has been the most common strategy, particularly during the 1950s and 1960s, but other approaches have also been employed. One is what might be called context creation. This approach took one form during the Nixon and Carter administrations, when they sought to normalize relations with the PRC. By making statements about Taiwan's status and commitments regarding its future relations they tipped the balance of power between Beijing and Taipei so much in the PRC's direction that it had a deleterious impact on Taipei's negotiating position. Both the ROC and its friends in the Congress regarded the Nixon and Carter initiatives as serious betrayals. This is what might be labeled negative context creation.

A more positive variation occurred in the late 1980s and early 1990s, with the growth in social and economic cross-Strait cooperation. There were expectations that proliferating economic ties might create the basis for a political reconciliation. Here too, Washington did not seek to intensify the movement taking place. As Secretary of State George Shultz put it in February 1987, "We have welcomed developments, including indirect trade and increasing human interchange, which have contributed to a relaxation of tensions in the Taiwan Strait. Our steadfast policy seeks to foster an environment within which such developments can continue to take place."[2] Among the ways in which Washington attempted to foster the cooperative environment included forward deployment of US forces in the Western Pacific; trade liberalization; good relations with both the PRC and Taiwan; insistence on peace; and arms sales to Taiwan.

In the early Bush administration, there was a shift toward the singular deterrence of China. Prior to the 2000 election, Republican foreign policy advisors believed that the Clinton administration had been too tough on Taiwan and too soft on China, reassuring Beijing when it should have been firm and, conversely, being firm towards Taipei when it should have sought to reassure. This stance was particularly apparent in the summer

of 1999, when Republicans asserted that, in view of China's belligerent response to Lee Teng-hui's special state-to-state formula, the United States should announce that it would defend Taiwan under any circumstances. Such a declaration, they said, would reduce the chances of mainland Chinese miscalculation. Moreover, they felt that clarity was necessary as China was likely to pose a larger challenge to US interests in East Asia, and that it was over Taiwan that Beijing would most likely test American intentions first.[3]

It therefore came as no surprise when the Bush administration acted on these views once it took office. In April 2001, it agreed to provide a "robust" package of weapons systems so that the island's armed forces would be better able to deter PRC military action, and to mount a defense if deterrence failed. President Bush, in a series of statements around the same time, stated more clearly than ever that the United States would defend Taiwan under just about any circumstances. Administration officials avoided rhetorical formulations of policy that reassured Beijing and irritated Taipei. It was firm, in the face of complaints from Beijing, about its shift in policy toward single deterrence, and it was done very deliberately.

Subsequently, the Bush administration eventually shifted back toward dual deterrence. While it did not abandon its concerns regarding the growing gap between China's and Taiwan's military assets, nor that Beijing might actually try to coerce Taiwan into negotiating on its terms, Washington did seek to discourage political initiatives from Taipei, initiatives to which the PRC felt it had to respond. The immediate cause of this shift was Chen Shui-bian's 3 August 2002 statement that there were two states *(guo)* on each side of the Taiwan Strait. Later statements stimulated even greater concern.

Within a larger context, more or less after the 11 September 2001 attacks on the US, there was a change in the US relationship with the PRC. The Bush administration no longer regarded China as America's certain adversary in East Asia. While this possibility was not absolutely dismissed, for the near and medium term Beijing became a partner in the

effort to battle terrorism and contain the threats that rogue states posed to peace and stability. That China assumed a central role in the creation of the 2003 forum for negotiations on the North Korea issue, was particularly significant.

Security dilemma

Turning now to the relationship between Taiwan and the PRC itself, it is important to recognize that the two parties are trapped in a security dilemma. Each sees the power of the other and fears how it might be used. Both have taken steps to guard against that threat, only to trigger a hedging response from the other side. Thus, Beijing and Taipei have each added new systems to their respective arsenals to counter acquisitions by the other.[4]

This state of affairs has a long history, but the current stage began in the early 1990s. This was a time when both the PRC and Taiwan sought to take advantage of the buyer's market in advanced weapons systems created by the collapse of the Soviet Union. Politically, there were growing conflicts over Taiwan's approach to the unification of China. Lee Teng-hui grew increasingly frustrated over the constraints set out by the "one country, two systems" framework, and by Beijing's refusal to adjust its approach to the legal and political status of the ROC government (see below). The PRC saw Lee's domestic policies and his effort to re-insert Taiwan into the international system as a serious threat.

However, the conflicts experienced in the mid-1990s demonstrate that this case is not the classic security dilemma as described in international relations literature. Even though the two sides of the Strait are engaged in something of an arms race, it is not a simple case where Beijing fears that Taipei's arms acquisitions will make it more vulnerable to attack. Rather, what Beijing dreads are Taiwanese political initiatives to permanently separate the island from China, or, as the PRC might put it, seizing Chinese national territory by fiat rather than force. Taiwan's military power and its *de facto* alliance with the United States become relevant not because they are inherently threatening, but rather because they are seen as useful in defending said political initiatives (in this case, Taiwan's defensive capabilities increase the security dilemma). It is in order to deter these steps, and to counter Taiwan's defensive military build-up, that the People's Liberation Army (PLA) acquires new capabilities. Furthermore, it is supposedly to allay Beijing's fears that it

has asked Taipei to continuously reaffirm its commitment to the One-China principle. The central political dimension of this security dilemma gives it an asymmetrical and perhaps unique character. As Thomas Christensen so elegantly puts it:

> Security dilemma theorists have assumed that international security politics concerns merely defending sovereign territory from invasion and foreign acquisition. [But] to a large degree, the Taiwan question is one more of the island's political identity than of the PRC's territorial expansion. The danger to the PRC is that Taiwan might eventually move from de facto independence to legal independence, thus posing an affront to Chinese nationalism and a danger to regime stability in Beijing.[5]

It was these political vectors that created the crises of 1995 and 1996, which at its core was a coercive PRC response to a series of political initiatives undertaken by Lee Teng-hui. Beijing was similarly alarmed in July 1999, when Lee Teng-hui declared that cross-Strait relations were "special state-to-state" relations, and in March 2000 when it became clear that Chen Shui-bian, whose party charter included the goal of independence, was about to win the Taiwan presidency. The PRC repeated its coercive diplomacy to restrain what it saw as threats to its sovereignty and territorial integrity. Taiwan seeks to acquire its own deterrent, but depends ultimately on the protection of the United States.

This security dilemma has a further political dimension. That is the PRC's use of united-front tactics within Taiwan, as a means for preventing what it seeks to avoid (independence) and perhaps securing what it seeks most, (unification on its terms). It has sought to capitalize on the business community's interest in improved cross-Strait economic relations. It aligned with the Kuomintang (KMT) and the People's First Party (PFP) in the hope that they would win in March 2004. It has also used the pro-unification media on the island to project its message. However, Beijing's efforts to manipulate Taiwan politics aggravates the anxiety felt by some segments of the Taiwan public, and has led them to

suspect the worst of PRC intentions. (Note the asymmetrical nature of this situation; Taipei doesn't have the option of meddling in Chinese politics.)

An important dimension of this dilemma is a heavy overhang of mistrust. Not only does each side watch the actions of the other and take steps to deter the worst, but neither believes that the other will keep its word, irrespective of what promises are made.

For Taipei, the dilemma is even more profound. It has relied on the United States for its security since 1950, and with its increasingly weak position militarily, it will continue to do so. With this *de facto* quasi-alliance come the problems of any alliance, including fears of abandonment and entrapment. Taipei worries, sometimes to a paranoid degree, that Washington will, either by accident or design, sacrifice its interests for the sake of maintaining relations with Beijing. At the same time, sometimes Washington worries that the initiatives of Taiwan's leaders will drag it into an unnecessary conflict with China.

This unique security dilemma shapes the American task of dual deterrence. What it seeks to constrain *vis-à-vis* Taipei are political initiatives that provoke Beijing to the point that the latter concludes that it must use force to block a separatist trend. What it seeks to constrain *vis-à-vis* Beijing is military coercion against Taiwan, either as a response to Taiwan's political initiatives or because it loses patience in the quest for unification. Both scenarios call into play the American security commitment to Taiwan. In constraining Taiwan politically, Washington must do so in a way that does not leave Taipei feeling abandoned. In constraining Beijing militarily, it must do so with sufficient credibility that Beijing is deterred, but not so robustly that it concludes that Washington has adopted a fundamentally hostile policy.

The root of the problem

To best evaluate the role of Washington and its effort to constrain destabilizing actions by Beijing or Taipei, it is imperative to understand the dynamic between China and Taiwan.

It is certainly true that Taiwan's democratization has complicated Washington's ability to respond flexibly to shifting circumstances, in its pursuit of the fundamental quest to preserve stability. An open and competitive system has permitted the public expression of previously repressed ideas (Taiwan independence), the rise of new political forces (the Democratic Progressive Party or DPP), new policy proposals (promoting Taiwan's international participation), the emergence of a Taiwan identity, and the need for politicians to appeal to electorates. All these developments have aggravated Beijing's suspicions that the island's leaders have a separatist agenda, and have at times led it to undertake coercive diplomacy to impose restraint. In turn, the United States has been drawn in as a self-appointed guarantor of the peace.

It is easy to exaggerate—or misinterpret—the destabilizing impact of these changes. Take the issue of Taiwanese identity, the belief of many on the island that their homeland is a separate country and culture, and the profound fear of outsiders—including PRC outsiders—that stems from it. This nationalistic identity, however, does not have a long history and is primarily the product of KMT repression. As Alan Wachman notes, "The cultural identity of Taiwanese appears to have been 'invented' in reaction to the efforts of the Mainland elite to make residents of Taiwan cleave to the Chinese motherland, its culture, and its people."[6]

All Taiwan residents today have at least two and probably three identities. One is Taiwanese, which has emerged within the last fifty-plus years, and which even "Mainlanders" may possess. The second is a Chinese identity, at least in an ethnic and cultural sense. The third is a cosmopolitan identity. Since the 1990s, there has been extensive polling in Taiwan on levels of identification with Taiwan and China. A comprehensive survey of that data found a gradual, yet clear trend toward

a stronger and exclusive Taiwan identity. Some of those who had begun with a solely Chinese identity have shifted to a "double identity," while those without double identities have tended toward a singular Taiwan orientation. This shift has occurred irrespective of ethnic background, age, educational level, gender, and party affiliation. External forces, particularly actions adopted by the PRC, can also contribute to the shape and balance of these Chinese and Taiwanese identities. Interestingly, the consensus held by a number of scholars is that the growth, even dominance, of a Taiwan identity does not in and of itself lead to a quest for independence.[7]

Take, as another example, how the context of competitive politics has led to a shift in emphasis on the Democratic Progressive Party's stated goal of Taiwan independence. Some of the DPP's factions followed the view that the way to gain power was to emphasize Taiwan independence as a political goal. The appeal of this strategy reached its first peak in 1991, when the creation of a Republic of Taiwan was inserted in the DPP charter. Throughout the 1990s however, the party gradually shifted its emphasis from outcome to process. In fact, this was a return to the 1980s approach of calls for democracy and self-determination. In the May 1999 DPP resolution on Taiwan's future, the goal of an independent Republic of Taiwan was replaced by a formulation of Taiwan's status similar to that of the KMT *and,* for the first time, a backhanded acceptance of the term "the Republic of China." There was also an emphasis on caution and gradualism. The purpose of this new position, which was reaffirmed throughout most of Chen Shui-bian's 2000 presidential campaign statements, was to remove the vulnerability that had dogged the DPP for almost a decade; that it could not be trusted with power.[8]

More generally, this electoral imperative compelled both the KMT and the DPP to move toward a moderate stance during the 1990s.[9] The former became more cautious on the issue of unification, while the latter distanced itself from independence. At the same time, they both also accepted the need to allow significant economic interdependence with the mainland.

The evolution of DPP thinking, away from a rigid adherence to the party's principle of Taiwan independence, toward a pragmatic direction, suited to the middle of Taiwan's electoral spectrum, is clearer in retrospect than it was at the time of execution. At every step of the way, DPP "fundamentalists" would engage in rearguard actions. Moderates knew that they could not completely ignore the fervor of their comrades' views, even as they continued to adjust policy substance. Tensions did not disappear when the DPP became the ruling party; in fact they resurfaced with a vengeance during the 2004 presidential election campaign. In order to rally a disaffected base, Chen Shui-bian returned to old DPP proposals for referenda and the formulation of a new constitution. He also sought to provoke China and intensify the strength of a Taiwan identity. Whether the electorate will endorse a permanent movement away from the center remains to be seen.

The root of the problem however, lays not so much in political change in Taiwan, but in the way in which Beijing is viewing these changes. While there seems to be an impulse toward independence on the island, I would argue that the initiatives of leaders like Lee Teng-hui do not represent efforts to separate Taiwan from China permanently, as Beijing claims. In some cases Taiwan's responses may be due to Beijing's rigid approach to unification.[10]

Fundamentally, the disagreement is over the nature—the legal identity — of the governing authority on Taiwan. Discussion usually focuses on the issue of *whether* Taiwan is a part of China, that is whether the state known as China owns the territory of Taiwan, or whether it possesses sovereignty. The heart of the matter, however, is *how* Taiwan might be a part of China, or, to be more precise, whether the ROC government might be part of the Chinese state.

Since 1949, the PRC has asserted that the ROC has ceased to exist, and the "Taiwan authorities" are not a sovereign entity. In contrast, on Taiwan there is a broad consensus on the island, from PFP to DPP, that its government does possess sovereignty. To use the usual formulation, "the ROC (or Taiwan) is an independent sovereign state." All major forces on

the island have consistently held that if unification is to occur, then the sovereign character of the Taipei government must be preserved within the context of that national union. Under the PRC's reunification formula of "one country, two systems", like Hong Kong and Macau, Taiwan would possess autonomy or home rule but not sovereignty, while the PRC government would remain the exclusive sovereign.

There are other examples of national unions made up of combined sovereign entities. This is how the United States started out, first as a confederation and then as a federation. The expanding integration of the European Union has been accompanied by a progressive pooling and dele gation of sovereignty. While these systems are hard to design and maintain, upon an abstract level these models may provide an avenue whereby the PRC would be able to fulfill its historic mission of unification, and Taiwan would preserve its government's sovereignty. In fact, many in Taiwan have found some type of confederation attractive (the Kuomintang floated a proposal along those lines in 2001).[11]

Beijing on the other hand, has consistently rejected any formula for unification that is conceptually different from "one country, two systems". This has only fostered frustration on the part of Taiwan's leadership, and resulted in an understandable desire to push back. A strong case can be made that Lee Teng-hui's shift toward expanding Taiwan's international space, in the early to middle 1990s, which culminated in his campaign to visit the United States, was in response to Beijing's refusal to reciprocate his conciliatory posture and proposals for potential unification in 1991. Similarly, he developed the "special state-to-state" formula in recognition of the need to better define Taiwan's legal identity in advance of inevitable political negotiations. Its announcement was made when he feared that Beijing was going to take the propaganda high ground in advance of Wang Daohan's Fall 1999 visit. Chen Shui-bian's various initiatives from 2002 to 2004, beginning with his "one country on each side" statement, were in response to Beijing's refusal to engage with him when he came into office, scattering his hopes that Beijing would match his calls for moderation and good

will.

Further exacerbating this mutual disagreement and Taiwan's frustration, were Beijing's misperceptions of Lee Teng-hui's and Chen Shui-bian's goals during their respective presidencies. The PRC has regarded their claim that its government possesses sovereignty as proof *ipso facto* that they are separatists. Both Lee and Chen have vigorously opposed "one country, two systems" because it was considered antithetical to their basic views of the legal character of their government, and all that it represented domestically and externally. They refused to accept a formula that would create a Taiwan special administrative region subordinate to the central sovereign government in Beijing. A careful reading of their statements indicates clearly that Lee did not oppose unification *per se,* rather Beijing's consistent approach to the problem. At least during the early part of his administration, Chen hinted that there were modes of unification other than "one country, two systems" that he thought had promise. Lee Teng-hui's visit to the United States was not in and of itself part of a separatist plot, except in the broad terms of Beijing's definition of separatism and its narrow view of unification.

These misperceptions are part of a larger deficiency in the PRC's decision-making system. Throughout the 1990s there were several episodes in which Beijing misread the actions of its adversary, exaggerated the threat those actions posed to Chinese interests, and fashioned a response that exacerbated the situation from China's point of view. The 1995–6 crisis is a classic example of this tendency.[12]

Both sides seek to shape Washington's definition of the situation (and how it seeks to preserve peace and stability). If the United States were to accept Beijing's basically flawed interpretation of Taiwan leaders' intentions, then it may also misjudge how best to manage this complex situation.

Dual deterrence

To summarize the discussion so far, the United States faces a situation in which two countries with which it aims to have good relations are caught in a unique security dilemma, where each feels threatened by the other. The "threat" Beijing perceives is political, not military. PRC weapons acquisitions, which are occurring faster than Taiwan's counter-acquisitions, threaten to upset the military balance. They further increase Beijing's temptation to use its military assets, not to deter independence, but compel unification. Politics on Taiwan certainly give Beijing additional reasons to fear that the island's leaders might seek to permanently separate the island from China. Those fears grew even stronger when, contrary to China's expectations, Chen Shui-bian won re-election for a second term. These fears however, are exaggerated, and are by and large the product of misperceptions. Moreover, China's own rigid stance with respect to cross-Strait negotiations has probably contributed significantly to the very actions that it finds so threatening. Given Washington's "abiding interest" in peace and stability in the Taiwan Strait, how is it to protect that interest? How should it balance threats and reassurance *vis-à-vis* each of the parties whose behavior it tries to influence? And how clear should it be in both threats and reassurance? In the case of Taiwan, how should Washington avoid the problems of both abandonment and entrapment?

Discussions of US dual deterrence typically focus on the concept of "strategic ambiguity." The essence of this concept is that the United States has not explicitly stated whether it will come to Taiwan's defense in the event of an attack by the PRC. The resulting uncertainty about US intentions, it is argued, has shaped the intentions of the other two actors. It has constrained China from making an unprovoked attack on Taiwan, and has constrained Taiwan from taking steps that Beijing would find so provocative that it must respond. One variant of the idea is to say that the United States has a policy of strategic clarity and tactical ambiguity. That is, America wants peace and stability but will not define in advance what it will do in any specific circumstance. This is a verbal reformulation,

however, and does not resolve the policy problem.

Many have argued that for the United States to declare in advance what it would do in a variety of circumstances is unwise, for a variety of reasons. First, it is impossible to predict all contingencies. Second, specifying the circumstances under which the United States would act would not eliminate probing by either Beijing or Taipei, but might actually increase it. Third, the US's response would be guided as much by American domestic politics, as by how the actual conflict began. Fourth, strategic clarity may reduce American flexibility, while simultaneously increasing its responsibilities. Thus, while a blanket commitment to defend Taiwan would likely release it from any responsibility to help maintain the peace, it would render Washington a hostage to Taipei's actions (the entrapment problem). Timothy Crawford argues: "a key to pivotal deterrence [essentially the same as dual deterrence] is that the pivot avoids firm commitments."[13]

All of this is true, and helps illuminate the pitfalls of proposals like that of William Kristol that the United States declare its intention to defend Taiwan's democracy (on the grounds that Taiwan's democracy is a force for change on the mainland). The advocates of strategic ambiguity would ask, what aspect of Taiwan's democracy is worthy of an American security commitment? Is it all the initiatives taken in the name of Taiwan's democracy? The recent disagreements over referenda would be a case in point.[14]

Most discussions which deal with strategic ambiguity only scratch the surface of American policy. It is important to point out that the degree of ambiguity cannot be measured simply through public statements. If Washington informs Beijing privately that it will defend Taiwan under any circumstances, China would be under no illusions about US intentions. If Taipei were informed of, or learned about this statement, there would be no ambiguity where it matters most. It is the task of American diplomacy to interpret how past public statements apply in any new set of circumstances, particularly with respect to how US statements regarding the use of force shape Beijing and Taipei's intentions. In this

instance it is the interpretation, rather than the statement itself, which is important. If the United States is publicly vague, but Beijing concludes that America will defend Taiwan under any circumstances, than this has one set of implications for stability. If Taipei is aware that Beijing has adopted this particularly interpretation of Washington's statement, this has additional consequences.

This wheels-within-wheels phenomenon illustrates that the supposed value of strategic ambiguity is also its liability: a lack of clarity about US intentions may lead one or both of the parties to take risks rather than be cautious. Indeed, it was Bush's foreign policy team that held grave concerns regarding the danger that might have resulted if Beijing miscalculated American resolve, ultimately leading them to adopt a policy of clarity in the spring of 2001.

In the real world, American policy makers position themselves on a continuum of clarity and ambiguity. An emphasis on ambiguity or clarity is dependent upon which serves US interests within the specific circumstances at hand; however, neither complete clarity nor complete ambiguity is ever possible. Until the mid-1990s, ambiguity was preferred, but circumstances arose in March 1996 and April 2001, in which Washington determined that its interests demanded greater clarity about its intentions, in part to show American resolve and in part to reduce the possibility of miscalculation. As a result, and as we have noted, the United States complements its overt statements and actions with private communications. What Beijing and Taipei believe Washington and each other will do is more important than public statements.

What the United States says about its use of force in the event of a cross-Strait conflict is only one element of the American dual deterrence approach, and one of many means to shape the intentions of Beijing and Taipei. Let us briefly review these alternative methods.

Military capabilities

Intentions are a function of relative capabilities. A China that cannot project power to Taiwan is less likely to attack than one that can. A Taiwan that has a credible military deterrent and can fight for a few weeks, should deterrence fail, has more options (and the likelihood of timely American support) than one that is not. Conversely, a Taiwan that is denied military tools by the United States is more subject to intimidation by Beijing. A United States that is not deployed in East Asia or is pre-occupied elsewhere, is a United States that is less likely to come to Taiwan's defense.

In all these areas, the United States has sought to have an impact. It has urged fourth parties, like Russia and Israel, not to sell to China advanced military systems that may complicate its security tasks. While it has succeeded with Israel, at least on the Phalcon airborne early warning system, due to the commercial imperatives that drive Russian arms sales, it has failed miserably with Moscow.

Washington has concluded that, in order to strengthen its air and maritime defense and improve command and control, Taiwan requires a variety of systems, many of which were approved by President Bush in April 2001. For political reasons, Taipei has been slow to mobilize the budget resources to respond to US offers, but it now appears to have adopted a phased program for doing so. In order to ensure well trained and able armed forces, the US has also promoted the idea of significant institutional reform to Taiwan's military, should the need to fight arise. While institutional reform is difficult for any military, particularly for one that has not seen combat since 1958, a momentum has been established.

The American program to reconfigure its forces in the Asia-Pacific region will also, the Pentagon promises, improve US capacity to respond to a variety of contingencies, including Taiwan.

All these efforts, whether successful or not, are directed at raising the cost of conflict for Beijing to the point that it does not choose to wage war. However, they also raise the question of whether it encourages

Taipei to adopt more provocative political initiatives with respect to China. This is certainly Beijing's view. Since before the late 1970s, China has asserted that US security cooperation has reduced Taipei's incentives to negotiate. In fact, Beijing has charged that the Bush administration's actions have encouraged "Taiwan independence" forces in their separatist schemes. In the absence of information regarding the private assessments of Taiwan leaders, it is difficult to provide a solid answer. My judgment, however, is that Taiwan's military capabilities matter less to its leaders and the public, than the issue of whether the United States will defend Taiwan under any circumstances.

Intentions

The purpose of strategic ambiguity, it is recalled, has been to affect the intentions of Beijing and Taipei by creating uncertainty about whether the United States will use force. However, there are other ways in which to shape intentions on the two sides of the Strait.

One is to seek to reassure each side about Washington's own political intentions. There has been a series of occasions in which the United States has sought to dissuade Beijing from the pessimistic conclusion that it was, in fact complicit in an effort to permanently separate Taiwan from China. This was one reason for declaring the "three no's." Other instances include the strong reiteration of the "One-China" policy during the April 2002 visit of then-Vice President Hu Jintao to the United States, and the December 2003 visit of Premier Jiabao.

Reassurance, though, can go in the other direction as well. Increasingly, my role as AIT chairman was to be the leading "reassurer" of Taiwan and its leaders. The fact that I had the flexibility to speak for the US government at greater length than other American officials facilitated this role. For example, when during the late 1990s the United States urged a resumption of dialogue, I was authorized to say that resumption should occur on a mutually acceptable basis (implicitly, not on Beijing's terms) and that any cross-Strait solution had to both occur peacefully and be acceptable to the people of Taiwan. Reassurance, therefore, was important in the run-up to the 2000 Taiwan presidential election, and particularly for Chen Shui-bian. Through a variety of channels, some of them public, Washington conveyed to Chen the message that whether he won or not was up to the Taiwan people alone. What mattered for the United States were the policies that the elected leader pursued, and whether they were consistent with US interests in peace and stability in the Taiwan Strait region, as Washington defined those interests. Moreover, by taking the initiative to improve contacts with Chen, we demonstrated the value that we placed on good communication.

The shaping of intentions is sometimes also done by stressing what we

hope one, or both sides, will avoid. The US's urging of Beijing to eschew a forceful solution is a key example. Implicit in this appeal are the costs involved: not only the possibility of American intervention, but also the severe damage to US-China relations more broadly, thus undermining China's own stake in those ties. With Taipei, we have, at least implicitly, pointed out the need to preserve for Beijing the impression that the door has not closed on some kind of unification.

Misperceptions

Another point of attack for American policy is the way in which Beijing's or Taipei's intentions are formed by misunderstandings of the other's goals. Elements in Taiwan, for example, probably exaggerate the danger that "one country, two systems" would pose to the island. There is a tendency in some quarters, to demonize much of what the PRC stands for, and invest little effort to define with precision what core interests Taiwan should defend in any political negotiation with the mainland. Emotion supplants reasoned debate. This is somewhat understandable, given history, the growing Taiwan identity, PRC actions, and the fear of outsiders that many feel. While Taiwan is more open to dialogue than Beijing is, Taiwan's own misperceptions complicate matters.

To my mind, however, the problem is far greater on the PRC side. Beijing has consistently—and incorrectly—interpreted Taipei's opposition to "one country, two systems" and its effort to assert its own position (pragmatic diplomacy, special state-to-state, one state on each side) as evidence of a separatist project. The United States might be much more aggressive in explaining to the PRC why that conclusion is incorrect and potentially destabilizing, and why, therefore, it must be more creative in appealing to the Taiwan public.

Political intervention

Finally, there is the option of becoming an explicit actor in Taiwan domestic politics. The logic for doing so is obvious. Owing to the fact that the initiatives that Beijing (and perhaps Washington) finds destabilizing are the product of the island's political dynamics, the United States may choose to make clear to the Taiwan public which outcomes it opposes. However, this would require Washington to abandon the principled stance of neutrality that it takes concerning elections in friendly democracies. It might be argued though, that such a stance is appropriate because American interests are so at stake, and because Taiwan's democracy depends on the American security umbrella. Why hypothetically, one might ask, should the United States remain quiet if it believes that the Taiwan public is about to make choices that are both unnecessary and will likely entail the sacrifice of American young men and women to defend the island?

Our inventory of other tools clarifies the difficulties involved in a broad gauged effort to moderate the intentions of both sides of the Strait and prevent an action-reaction spiral towards conflict. Russia is not willing to consider US interests as it fortifies China's arsenal. Commitments to Taiwan can be seen as a blank check. Reassurance is not necessarily credible. How Beijing misunderstands Taiwan's intentions may, for deeply rooted institutional reasons, be immune to American efforts to suggest an alternative and less threatening view. The struggle for power in Taiwan can take precedence over reassuring Beijing and Washington, and the United States would prefer to remain neutral in that struggle. An American stance, which is read as inappropriate pressure on Taipei, can foster domestic pressure on the US executive branch.

This discussion also illustrates the critical importance of good communication. As conflict is often born of misperception of an adversary's—or an ally's—intentions, the United States depends on clear signaling to protect its interests. In order to prevent the problems of abandonment and entrapment, this is certainly true between Taipei and Washington. It is also true of Washington and Beijing, primarily because

Beijing is so prone to misperception and miscalculation. But where clear communication is most lacking is between Beijing and Taipei, and the blame here must be laid at Beijing's door. It had an ideal opportunity to engage Chen Shui-bian after his inauguration, when he most clearly recognized the need for conciliation, reassurance, and creative thinking. Yet Beijing set stiff preconditions for the resumption of dialogue. To be sure, it was suspicious of his intentions. Yet by requiring that he explicitly allay its doubts, it created suspicions in Chen's mind that he was walking into a negotiating trap (due to concerns that accepting the "One China" principle would be tantamount to making fundamental concessions up front). Beijing therefore, lost the chance for a venue to reassure itself about his objectives. Beijing's response to Chen's re-election was the same: set the bar so high that Chen would not even try to attempt to reach it, thus destroying any chance for reducing mutual mistrust.

Conclusion

There is, at least in theory, an alternative to the perpetual cross-Strait stalemate, and for the United States, the permanent role of preventing conflict through dual deterrence. That is for Beijing and Taipei to find a mutually acceptable approach of stabilizing the situation to the point where each side has a more benign view of the other's intentions, and over time fostering an enduring peace. While increasing economic interdependence is a strong reason for such a course of action, there should be no illusions about crafting such an alternative. Even if the Pan-Blue had won the 2004 presidential election, reconciliation would have required substantial creativity from Beijing, and an equally creative response from Taiwan's rather dysfunctional political system. As the Pan-Blue did not win, the most likely scenario is that the United States will remain in the middle, continuously ensuring that neither side concludes that breaking out of the current uneasy stalemate is preferable to living within it.

Playing this role is not easy. Washington must be sensitive to the dynamics of Taiwanese identity and Chinese nationalism without becoming captured by either. It must, on the one hand, cope with China's growing military power and the decision-making system that wields it, and, on the other, manage the structural tensions of the *de facto* alliance with Taiwan, which are magnified by democratic systems. The US must position itself correctly on the spectrum of clarity and ambiguity and choose carefully between public declarations and private diplomacy. In facing these challenges over the last decade, the United States has performed remarkably well. It understands that its own interests are sufficiently at stake that it cannot opt out of the dispute, and it has gained experience in protecting them. The absence of serious conflict so far is no guarantee that it will not occur in the future. Yet conflict is less likely because the United States bears the burden of dual deterrence.

Notes

1 Richard M.Pious, "The Taiwan Relations Act: The Constitutional and Legal Context," in Louis W.Keonig, James C.Hsiung and King-yuh Chang (eds) *Congress, the Presidency, and the Taiwan Relations Act* (New York: Praeger, 1985), 161. Similarly, the TRA is less than meets the eye on arms sales, in that it TRA does not *mandate* those sales because it is not self-enforcing in either a substantive or procedural sense. For a full elaboration of this point, see my essay, "Helping the Republic of China to Defend Itself," in Ramon H.Myers (ed.) *A Unique Relationship: The United States and the Republic of China Under the Taiwan Relations Act* (Stanford CA: Hoover Institution Press, 1989), 83–6.

2 "Shultz Winds Up Visit, Departs for Seoul," Foreign Broadcast Information Service, *Daily Report: China,* 6 March, 1987, B-1.

3 See James Mann, "This Election Has Foreign Affairs Written All Over It," *Washington Post* (Outlook section,) 26 October 2003, B-3; Project for the New American Century, "Statement on the Defense of Taiwan," 20 August 1999, http://newamericacentury.org/Taiwandefensestatement.htm. Bush administration officials also believed that Taiwan was taking a cautious, non-provocative stance toward the PRC, that Beijing was not prepared to engage in dialogue on sensible terms, and that its arms acquisitions were inconsistent with merely dissuading Taiwan from taking provocative actions.

4 See Chapters 4 to 9 for military procurement on both sides in the last decade.

5 Thomas J.Christensen, "The Contemporary Security Dilemma: Deterring a Taiwan Conflict," *Washington Quarterly,* vol. 25, no. 4 (autumn 2002), 12–13.

6 Alan M.Wachman, *Taiwan: National Identity and Democratization* (Armonk NY: M.E.Sharpe, 1994), 119.

7 Ho Szu-yin and Liu I-chou, "The Taiwanese/Chinese Identity of the Taiwan People in the 1990s," *American Asian Review,* Summer 2002. On a cosmopolitan identity, see Christopher Hughes and Robert Stone, "Nation-Building and Curriculum Reform in Hong Kong and Taiwan," *China Quarterly,* no. 160 (December 1999), 977–91; Wachman, *Taiwan: National Identity and Democratization;* Christopher Hughes, *Taiwan and Chinese Nationalism: National Identity and Status in International Society* (New York: Routledge, 1997), 103–4, 127–8; Rwei-Ren Wu, "Toward a Pragmatic Nationalism, Democratization and Taiwan's Passive Revolution," in Stéphane Corcuff (ed.) *Memories of the Future: National Identity Issues and the Search for a New Taiwan* (Armonk NY: M.E.Sharpe, 2002), 211; Chu, Yun-han, "Taiwan's Security Dilemma: Military Rivalry, Economic Dependence, and the Struggle over National Identity," paper prepared for the International Conference on Democracy, Nationalism and Security in the Asia Pacific, Taipei, 12 November 2003.

8 Shelly Rigger, *From Opposition to Power Taiwan's Democratic Progressive Party* (Boulder CO: Lynne Rienner Publications, 2001), 121–2.

9 Yu-Shan Wu, "Does Chen's Election Make Any Difference? Domestic and International Constraints on Taipei, Washington, and Beijing," in Muthiah Alagappa (ed.) *Taiwan's Presidential Politics: Democratization and Cross-Strait Relations in the 21st Century* (Armonk NY: M.E.Sharpe, 2001), 167–79.

10 Concerning Lee Teng-hui, the above statement certainly applies to the twelve years that he was president. For a detailed elaboration, see my "Lee Teng-hui and 'Separatism,'" in

Dangerous Strait: The US-Taiwan-China Crisis (New York: Columbia University Press, 2005) 70–92, Nancy Bernkopf Tucker (ed.). Lee's thinking has evolved since he left the presidency, but I would argue that what he advocates now is far less relevant that when he was in office.

11 "Taiwan KMT Chairman Lien Chan Proposes Cross-Strait Confederation," Central News Agency, 4 January 2001, FBIS, CPP20010104000074; "KMT Unveils Position Paper on 'Confederation,'" CNA, FBIS, CPP20010707000071, 7 July 2001.

12 For other examples, see my "PRC Foreign Policy and Security Behavior: Decision-Making Problems," *Journal of International Security Affairs,* no. 4, (winter 2003), 77–88.

13 Timothy Crawford, "Pivotal Deterrence and the Kosovo War: Why the Holbrooke Agreement Failed," *Political Science Quarterly,* vol. 116, no. 4 (winter 2001–2), 499–523 (cited passage on 502). Nancy Bernkopf Tucker has contributed to my thinking on the merits of strategic ambiguity.

14 Testimony of William Kristol, House Committee on International Realtions, *The Taiwan Relations Act: The Next Twenty-Five Years,* 108th Cong., 2nd session, 21 April 2004 (www.newamericancentury.org/taiwan-20040421).

Part II
CHINA'S CAPACITY TO USE FORCE

4

SHORT-RANGE BALLISTIC MISSILE CAPABILITIES[1]

Jonathan D.Pollack

Among the manifestations of China's renewed emphasis on military preparations against Taiwan, the role of its short-range ballistic missile (SRBM) force is arguably the most consequential. Notwithstanding the enhancement of a wide array of Chinese military capabilities over the past decade, the SRBM force constitutes a fundamentally new capability, affording Beijing political and military options that it until now did not possess. As characterized in the Pentagon's 2003 assessment of Chinese military power, "preparing for a potential conflict in the Taiwan Strait is the primary driver for China's military modernization…. Currently, China's conventional SRBM force is its most credible and immediate threat to Taiwan."[2] China's SRBM buildup has also stimulated a wide-ranging debate in Taiwan on its political and defense options, including the "defensive referendum" of 20 March 2004. The increased importance of the SRBM factor in the cross-Strait military balance also confronts the United States with major dilemmas in its policies toward Beijing and Taipei.

This chapter places the SRBM issue in its wider context. What factors explain the increased reliance of the People's Liberation Army (PLA) on short-range missile capabilities? Is it possible to estimate Beijing's expectations of a fully formed SRBM force and how these expectations are shaping Chinese military requirements? How might China's SRBM force affect Beijing's risk-taking calculations in a future crisis? What are the plausible scenarios where such capabilities might be employed, and with what political and military objectives? How has the enhancement of China's ballistic missile capabilities redefined the defense debate in Taiwan? Do military planners on Taiwan believe that there are realistic

possibilities for defending itself against the threat of missile attack, and what level of security assistance is expected from the United States?

Chinese defense planners deem SRBM capabilities relevant to a wide range of political and military scenarios. The missiles are integral to the PLA's growing emphasis on preemption, surprise, and the use of military power for a rapid, decisive effect.[3] The priority attached to conventionally armed missiles is unmistakably evident in military deployments, exercises, and doctrinal development. The SRBM role in various Taiwan contingencies took some years to emerge, but it has now acquired both momentum and definition. Though it is highly unlikely that the PLA views its short-range missiles as a stand-alone war-winning capability, the missiles serve multiple interrelated purposes. Even assuming an enhanced US role in ballistic missile defense (BMD) in future years, PLA planners assert that the growth and increased accuracy of short-range missiles will protect China's vital national interests, while constraining Taiwan's freedom of action. The SRBM force is expected to provide the PLA (in conjunction with other capabilities) appreciable military advantage for which Taiwan has no effective response or defense. Without such capabilities, Beijing believes it would be unable to prevent an irreparable separation between the mainland and Taiwan. However, increasing preparations for the potential use of the SRBM force have moved well beyond a pure deterrent role, underscoring the potential risks of a far more serious crisis.

Indeed, some analysts assert that Beijing sees its SRBM advantage eroding over time, as the United States deploys a fuller array of missile defense capabilities in the western Pacific. But it is not clear whether Beijing views its ballistic missile capabilities as more of a short-term asset, or as a capability that will confer additional leverage over the longer term. If the former holds true China would have incentives to employ these capabilities sooner rather than later. If the latter holds true there is no particular urgency to employing these capabilities anytime soon. Unless Beijing concludes that political and security imperatives demand more immediate action, there may be an added incentive for

deferring armed conflict. The resource commitments to these programs, though significant, are not unduly burdensome to Beijing, and in relative terms entail far lower budgetary and manpower costs than other PLA acquisition priorities. Military planners in Beijing believe that offensive missile capabilities can readily trump any defensive systems deployed by Taiwan. Even assuming that Taiwan ultimately establishes a significant missile defense capability, Beijing believes it can counter or overwhelm this capability in a major crisis, with Taipei thereby having committed major resources without a commensurate "return on investment." China's short-range ballistic missile force thus seems likely to remain a central factor in Beijing's longer-term political, military, and diplomatic calculations, unless Taipei and Beijing reach a modus vivendi, or unless Washington and Beijing achieve a larger strategic understanding. Thus, future US strategy represents a larger question mark in Chinese policy assessments.

While the buildup of China's short-range missile force is not necessarily open-ended, military planners have likely deemed the continued production and deployment of the SRBM force as necessary and feasible. As noted above, the Chinese remain deeply concerned about the implications of an appreciable US commitment to theater-based ballistic missile defense, since the possibilities of integrating Taiwan into a region-wide missile defense system would then increase. Beijing appears to have concluded that a larger, more accurate, and increasingly survivable SRBM force is therefore relevant under two opposed conditions: if the United States undertakes a major commitment to missile defense for Taiwan, or if it does not. In either event, China would have significantly enhanced its military options in a major crisis. China is also undertaking parallel efforts to enhance its land-attack cruise missile (LACM) program, as well as deploy *Dongfeng-21* medium-range ballistic missiles (MRBMs) farther into China's interior, with both of these latter capabilities posing separate, distinct problems for defending Taiwan against missile attack. Chinese leaders have, however, also recognized that the SRBM program, and other related missile activities, have triggered ample consternation in Taiwan. Ballistic missile defense is a

costly and highly uncertain program, whose capability to detect and deflect a major People's Republic of China (PRC) missile salvo would only be determined in warfare. Funds allocated to missile defense are funds denied to other defense programs. Equally important to Beijing, the debate in Taipei has produced few definitive policy outcomes, as the Republic of China (ROC) leadership has thus far been unable to agree upon the most appropriate means of addressing the mounting SRBM challenge.

Some officials in Taipei appear to believe that Beijing would be unwilling to endanger its larger political, economic, and security interests by launching a major missile attack against the island. Others seem to conclude that the PLA lacks sufficient confidence in the success of a major missile attack. This helps explain the extraordinarily protracted, and as yet inconclusive, deliberations in Taiwan over its longer-term defense strategy. Leaders in Taipei are not acting as if they face a major or imminent threat of attack. This suggests either wishful thinking in Taipei, the unwillingness of Taiwan to address its looming defense dilemmas, or an expectation that the United States is irrevocably committed to the defense of Taiwan, no matter what the circumstances.

Taipei, however, has failed to fully appreciate that Beijing's hand has been appreciably strengthened by its missile deployments. Its SRBM force has been developed as a capability for all seasons, not simply a capability to be employed *in extremis*. To assess these issues further, this chapter focuses on three principal issues:

- the evolution of China's SRBM capabilities over the past decade, and the likely pattern of development in the coming five years;
- the prospective conflict scenarios in which these capabilities might be employed; and
- Taiwan's defense options in light of these capabilities.

It will conclude with some observations about ballistic missiles as a policy issue in US-China-Taiwan relations.

Emergence of the SRBM threat

China's heightened attention to short-range ballistic missile development dates from policy deliberations and decisions in Beijing in the early 1990s. This followed the suspension of military-to-military relations between China and the US, the sale of 150 F-16 aircraft to Taiwan, and ROC President Lee Tenghui's efforts to assert an increasingly autonomous political identity for Taiwan.

During the late 1980s and early 1990s, Beijing was under major pressure from Washington to cease, or at the very least, severely curtail its ballistic missile sales to the Middle East and South Asia. These included M-9 and M-11 solid-fuel missiles that China had developed as a major military export item. Unlike the earlier sale of intermediate-range ballistic missiles (IRBMs) to Saudi Arabia, these missiles were not surplus inventory. With an estimated range of 600 km and 300 km, respectively, these missiles provide an alternative or supplement to high-performance fighter-bombers, and are relevant to a wide range of political and military objectives.

With the export market contracting, and having already incurred the R&D costs, these missiles (under designations *Dongfeng-15* and 11) were assigned to the PLA, principally to the Second Artillery. China began to produce increased numbers of SRBMs during the early 1990s, before its initial deployment of one or more missile brigades opposite Taiwan in 1994.[4] They provided the PLA with a short-range missile capability, which it tested in a series of unarmed missile launches during the military exercises opposite Taiwan in 1995–6. The "bracketing" of Taiwan's major northern and southern ports in missile tests, immediately prior to the March 1996 presidential election, provoked a major US military response comprised of the deployment of two carrier battle groups east of Taiwan. However, with the risks of passivity judged to be far more harmful to PRC interests than an initial demonstration of missile capabilities proximate to Taiwan, the PLA has sought to portray its tests as a signal of Chinese political commitment and military capability. Subsequent accounts by Chinese military strategists still deem

PLA actions as justified and not unduly risky, inasmuch as the US aircraft carriers stayed well out of harm's way, and that the PLA had no intention or capability to undertake a direct armed attack on Taiwan.[5] If there was a more chastened set of "lessons learned" from the events of 1995– 6, the Chinese have thus far demurred from disclosing these lessons.

The PLA's actions in the Taiwan Strait also attested to the unquestioned institutional clout and R&D competence of the Second Artillery, whose missions encompassed strategic nuclear deterrence as well as conventional missile operations. There were undoubted spillover effects resulting from those development programs already underway, at a strategic level, toward those being pursued in the SRBM program; most notably the shift to increase the number of missile launchers, the transition from liquid- to solidfueled missiles, and the shift from fixed launch sites to mobile missiles, thereby enhancing the survivability of China's nuclear as well as conven tional missile forces.[6] Technology and development efforts in the two areas, though different in scale and complexity, entailed a significant degree of cross-pollination. A host of operational skills and experiences in missile development, testing, and training were equally relevant to both strategic and conventional missile systems.

In the aftermath of the 1995–6 missile tests, the PLA undertook a major augmentation of its missile deployments in the coastal provinces ringing Taiwan. The available information does not permit a precise accounting of the numbers added to the inventory, though given the mobility and concealment of these units the imprecision of the estimates may be related in part to intelligence uncertainties. In addition, there is often confusion among analysts between the number of launchers identified as part of various missile brigades, as opposed to the number of missiles associated with each brigade.[7] The initial decision to introduce ballistic missiles in limited numbers, in the mid-1990s, was followed by a surge in production and deployment to flesh out various missile brigades. The growth that took place during the mid-to-late 1990s may have been initially constrained by a limited production capability, but

these constraints were largely removed by the end of the decade, especially in light of the reported 1999 Politburo-level decision to accelerate the pace of military modernization. By 2000, SRBM deployments were purportedly increasing at the rate of approximately fifty missiles per year, but recent US governmental estimates indicate an increase in production rates from fifty to "over 75 missiles per year over the next few years."[8] In late 2003, President Chen Shui-bian claimed that the total number of ballistic missiles within 600km of Taiwan had already increased to 496, deployed at bases in Jiangsi, Guangzhou, and Fujian Provinces.[9] In its annual report on Chinese military power released in May 2004, the US Department of Defense estimated the "deployed inventory…[at] about 500 SRBMs, a figure that will probably increase considerably in the next few years."[10] Some US estimates project a Chinese short-range ballistic missile force numbering 650 by 2005. However, in a February 2005 interview with *Newsweek* magazine, President Chen disclosed that "China has 706 ballistic missiles targeting us."[11] In early March 2005 testimony to the Legislative Yuan, Minister of Defense Lee Jye estimated that the total deployed missile inventory would reach approximately 800 missiles by the end of 2006.[12]

However, the specific numbers matter less than what the overall increases portend: a sustained commitment to the building of a substantial SRBM force, with the PLA able to develop and deploy a meaningful military capability that did not exist a decade ago. Equally important, the Chinese are seeking to make these forces more difficult to locate and missile launches harder to detect, while also undertaking research and development on countermeasures designed to defeat any measures that Taiwan might undertake to defend against missile attack. This is a weapons program that the PLA takes very seriously.

The Chinese missile threat

Chinese analysts believe that the SRBM force is relevant across a range of possibilities, from deterrence to preemption to war-fighting. Credibility of the force however (and hence its success in achieving various objectives) depends on its capability in warfare. Although Chinese writings suggest a growing confidence in the efficacy of missile attack options against Taiwan, gauging the magnitude of such an attack and anticipating its potential outcome and consequences are fraught with uncertainties and unknowns.[13] For example, in previous conflicts where missiles have been extensively employed against urban areas (notably the V-2 attacks directed against London and Antwerp in 1944–5, the "war of the cities" in the Iran-Iraq war, and Iraqi attacks with *Al Hussein* missiles on Israel and Saudi Arabia during the Persian Gulf war), the attacking states typically sought to inflict maximal damage on civilian populations and on a more limited number of military targets. The hope was that such attacks would either induce mass panic or would severely erode civilian morale, leading to surrender or to demoralized populations, with more limited prospects for inflicting casualties on opposing military forces.

However, the employment of such missiles, though triggering initial and widespread civilian terror, seldom yielded the desired longer-term effects. If anything, missile attacks ultimately stiffened domestic resolve, and the military effects (despite sometimes producing significant casualties) have rarely proven decisive.[14] Some analysts argue that comparisons between past military conflicts and a future war involving the use of modern ballistic missiles are not appropriate. For example, Iraq's employment of SRBMs against Iran, Israel, and Saudi Arabia involved upgraded, longer-range versions of World War II-era weapons, not modern ballistic missiles. The *Al Hussein* missiles were slow to fuel, wildly inaccurate, and verging on the unpredictable in terms of their ability to launch or maintain their structural integrity prior to impact. The DF-15s and DF-11s constitute a vastly different generation of weaponry, geared to near-pinpoint accuracy against a precise set of leadership and military targets. Presumably, the PLA has carefully studied earlier

campaigns in the hopes of utilizing the greatly increased accuracy, short warning time, and rapid reload capability of its newer missiles to achieve far more decisive results. The Chinese have most likely drawn on American experience in a range of recent conflicts, including the employment of thousands of precision-guided munitions against a wide array of targets in Yugoslavia and in Iraq. Such campaigns highlight the extraordinary efforts needed to weaken enemy capabilities and resolve, often with mixed or indeterminate results. Even with its growing capabilities, China's ability to bring massive amounts of highly accurate combat power to bear is not remotely comparable to that of the United States, though it would have the advantage of operating from home bases rather than over long distances.

There are four distinct strategies to which PLA missile capabilities might be put. The first is for the purpose of political deterrence (i.e. to caution Taipei from undertaking what Beijing deems separatist actions), though the credibility of such a deterrent depends upon the demonstrated capabilities of the missile force. Deterrence, however, generally attempts to convince or compel adversaries to forgo specific military actions, not political actions. To judge by China's repeated warnings to Chen Shui-bian, the SRBM force has failed to achieve this posited objective, since Beijing has not been able to forestall those moves by Chen that Chinese leaders warned would trigger unspecified retaliatory measures.

A second scenario is geared toward demonstrating effects akin to those pursued during the exercises of 1995–6, either as warnings to Taipei to desist from specific actions or as coercion short of war, designed to induce change in Taiwan's political behavior. Such actions might well tilt more in the direction of overt coercion, thereby imparting that Beijing was prepared to employ its power at higher degrees of capability and risk than in 1995 or 1996. They may also be a precursor to the use of armed missiles against a specific target (for example, an uninhabited or lightly populated island), though presumably short of initiating major hostilities. The intended purpose would be something between deterrence and punishment, but with a clear effort to keep the conflict contained.

The third category of action would be overtly coercive, with specific

targets in mind, but short of full-scale war against Taiwan. Such an attack would be premised upon surprise, with little or no warning prior to launching missile salvos. This clearly represents a far riskier strategy, insofar as it could trigger a host of actions and responses by Taiwan and the United States, but at the same time it could also significantly alter Taipei's strategic calculations. For example, some analysts foresee the use of Chinese SRBMs in a "missile blockade" strategy. This would posit the use of increasingly accurate missiles to incapacitate major ports and airfields. The presumed intent here would be to achieve decisive political-military effects against high-priority infrastructural targets, in order to compel Taiwan to enter into direct negotiations before the United States could intervene on Taiwan's behalf. Sustained, if circumscribed, attacks would trigger enormous anxieties and pressures within Taiwan's leadership and population; this could also have severe economic reverberations. This, however, could also provide Taipei and Washington with vitally needed time to weigh their responses, as well as instill more confidence within Taiwan if the leadership proved able to ride out such attacks.

The fourth category of prospective actions would be part of a full-scale military campaign designed to overwhelm Taiwan, in which SRBMs would play a pivotal role in the opening phases of the war. This would presumably entail large-scale missile use in the first hours of the campaign, designed to eviscerate Taiwan's retaliatory capabilities and destroy its will to resist, followed by a coordinated air and sea strategy to isolate and subdue the island. In both of the latter two scenarios, China would also seek to caution the United States from a direct intervention in the hostilities, ideally by achieving its core objectives before US capabilities could be brought to bear. In the event that the campaign was not concluded speedily, China would then have to execute options to raise the risks to any US forces deploying in or near Taiwan (i.e. an air-sea denial strategy), in which SRBMs might also play a role.

That said, the massive employment of modern ballistic missiles in warfare is a threshold that has yet to be breeched. Exercise data has presumably enhanced the confidence of Second Artillery commanders in

the effectiveness and reliability of their short-range missile inventory. Nan Li has argued that, over the past decade innovations in Chinese military strategy have provided a clear opportunity for the PLA to demonstrate its increasing initiative and technological advantage in local campaigns, with "operations in areas close to the homeland provid[ing] the favorable base, logistics, and battlefield conditions."[15] The missiles, however, have only been tested on a limited basis under conditions of simulated warfare. In its scope, complexity, and objective, a major military campaign directed against Taiwan, in which missiles are a pivotal component, would constitute wholly uncharted terrain for the PLA. In addition, the PLA must also weigh how Taiwan may choose to respond to a SRBM threat, either by a variety of defensive means, by degrading enemy capabilities once an attack was launched, or even (in the view of some strategists) by preemptive military attack. In response, the PLA would also need to plan its own steps to counteract the effects of various actions that Taiwan might adopt. This is a never-ending dynamic in competing representations of high-technology warfare, but one in which neither China nor Taiwan has any meaningful operational experience. At the same time, all these missile scenarios appear predicated on maximizing Taiwan's vulnerabilities. There is a clear expectation that the threat or actuality of war being brought to Taiwan would lead to Taipei's rapid call for peace, and the parallel assumption that the United States would be unprepared to put its own forces at risk in the end. Both assumptions may prove seriously flawed.

Taiwan's missile defense options

The uncertainties and unknowns of a major offensive missile attack pale in comparison to those associated with missile defenses. Although few subjects have provoked more heated debate in strategic circles, with advocates and opponents arguing their respective cases, it remains that the near-complete absence of credible historical data has made systematic measurement impossible. The Bush administration has greatly accelerated research, development, and testing of an array of potential missile defense architectures. It has also opted, at least in its declared policy pronouncements, for a missile defense approach that integrates theater missile defenses (TMD) with those geared toward protection of the US homeland. However, nearly all US testing and evaluation is being completed under experimental conditions, with the defending force target identified and tracked in advance. As the complexity and number of various defensive systems and the countermeasures designed to defeat them continue to grow, uncertainties in the posited effects of missile defense, under alternative scenarios, will also multiply. At the same time, only a selected few US systems will be relevant to Taiwan's defense needs.

Ballistic missile defense, therefore, has assumed a level of attributed political and strategic decisiveness out of all proportion to its demonstrated capabilities. Discussions of the China-Taiwan case often display insufficient regard for the potential costs, political consequences, and technological uncertainties associated with such systems; the role of topography and proximity in limiting the feasibility and effectiveness of various defensive systems; the daunting challenges in locating and interdicting mobile missile targets; the assumption of close missile defense interdependence between the United States and Taiwan; and Taiwan's alternative military requirements. Each of these topics requires careful scrutiny and evaluation.[16]

It is also necessary to differentiate among the range of defensive systems and technologies that would be involved in theater missile defense.[17] In the most basic sense, there is the distinction between

passive and active defense. Passive defense encompasses those measures designed to complicate the task of an attacking force, and those designed to preserve one's own military assets. They include the dispersal, camouflage, and hardening of various potential targets, as well as measures for recovering from an attack once it has occurred, such as the rapid repair of damaged facilities and cratered runways that have been put out of operation. In order to prepare for the subsequent phases of a military campaign, the objective is to retain or reconstitute as much military capability and institutional coherence as possible. In a favorable outcome, a defending force would prove able to withstand the full spectrum of an attacker's actions. Although Taiwan has enhanced its passive defense capabilities, these efforts have fallen well short of what US officials deem advisable. While these tasks may appear prosaic, they go to the heart of whether Taiwan's leadership and armed forces would be able to turn back a major PLA attack on their own. Indeed, they are vital in instilling confidence and resolve in the Taiwanese population and military.

The more contentious debate, in terms of resource allocation, technology acquisition, and potential interoperability with US missile defense systems, concerns active defense, or the ability to detect and intercept attacking missile forces before they reach their designated targets. This is a highly daunting challenge, particularly in light of the mobility and increased accuracy of Chinese missile forces, their capability for rapid launch and reload from mobile transporter erector launchers (TELS), the very short launch-to-target time, and prospective Chinese countermeasures against any defensive system. In addition, the complexity of different missile defense systems also runs an increased risk of losses due to "friendly fire," as evidenced in the 2003 Iraq war, when US missile defense batteries inadvertently shot down an American and a British fighter aircraft. These and all such related possibilities must be weighed in relation to prospective missile defense options for Taiwan.

There are four principal categories of technologies and systems relevant to different posited missile defense strategies, but some are still at a very preliminary stage of research and development:

- "lower-tier" systems geared toward point or area defense, of specific targets or forces, at a terminal point in the missile's trajectory;
- "upper tier" systems designed to intercept warheads in flight prior to their final descent toward a target;
- a "boost phase" capability able to intercept and destroy a missile shortly following its launch (i.e., prior to the separation of a warhead from its launcher), either by use of airborne or space-based lasers, or through the use of a "kinetic kill vehicle" (KKV) fired from a manned or unmanned aircraft or from ships; and
- an array of sensors, radars, and "battle management" capabilities designed to detect missile launches, gauge probable missile trajectories, and to "cue" various systems designed to intercept the missile prior to impact.

Taiwan's principal focus has been on terminal defense, which has been developed through the purchase of early generation *Patriot* missile batteries deployed near Taipei; indigenous development of surface to air missiles, in particular the *Tien Kung-2* missile; the pending purchase of six US *Patriot Advanced Capability-3* (PAC-3) batteries; and the acquisition of upgraded radars and sensors. Taiwan hopes to augment these capabilities by purchasing newer US destroyers equipped with an *Aegis Ballistic Missile Defense* (ABMD) capability, but Washington has thus far demurred from approving such sales.[18]

Taiwan's missile defense requirements would depend on the scale, character, and timing of a posited attack, the extent of advance warning or surprise preceding the attack, and the degree of hardware and software assistance the United States was prepared to offer. Given the PLA's range of capabilities, and the fact that it takes approximately seven minutes for its missiles to reach Taiwan, a comprehensive missile defense capability for Taiwan is neither feasible nor realistic in policy or technological terms. Even fewer options may prove possible if Taiwan assumes the rapid provision of large-scale US assistance. As an alternative, the United States has been seeking to raise the costs and uncertainties of a major PLA attack to a level that Washington believes Beijing would find

prohibitive, but without Taipei concluding that it has unconstrained freedom of political or military action.

Quite apart from US preferences, Taiwan still seems unable to determine an optimal or realistic defense strategy. Despite the impending acquisition of PAC-3 batteries, some Taiwanese strategic specialists express growing skepticism about the feasibility and cost effectiveness of active missile defense systems.[19] Some therefore advocate a limited offensive capability that would provide Taiwan with a deterrent capability of its own, presumably by holding major urban targets on the mainland at risk. There are also intermittent calls for Taiwan to build a capability for preemptive military attack against mainland missile batteries. The operational details of such arguments, the consequences for US-Taiwan relations, and not least the possibility of preemptive action by the PLA, are rarely raised in such arguments. Persistent reports of efforts to employ one or more of Taiwan's available missiles in an offensive role, lend greater credence to some of this speculation, and some believe that Taipei may ultimately opt for a nuclear weapons capability of its own. All this speculation, however, begs the basic question: even with such capabilities, in the event that deterrence fails, how would Taiwan defend itself? A decision by Taiwan to place preponderant emphasis on the ability to attack mainland targets, though superficially appealing, would fail to achieve any equivalence between the capabilities of the two sides, and might very well increase Taiwan's vulnerability if detected by Beijing. In the final analysis, however, preemption works "best" in the uncluttered, uncomplicated, and almost antiseptic realm of theory. At the same time, such possibilities engender the most profound of consequences for US relations with both Beijing and Taipei, to which we will now turn.

Prospects for neutralizing the missile threat

The increasing centrality of ballistic missiles and missile defense in the China-Taiwan balance confronts the United States with major policy dilemmas from which there is no easy escape. The Bush administration has repeatedly called upon Beijing to unilaterally forgo its SRBM deployments, which the US believes pose a severe and growing threat to peace and stability across the Taiwan Strait.[20] At the same time, Washington has repeatedly signaled its readiness to selectively assist Taiwan's missile defense efforts, depending on the projected missile threat to Taiwan. China, however, asserts that its short-range missiles are vital to preventing Taiwan from crossing political thresholds that Beijing insists would compel a coercive response. Notwithstanding its heightened commitment to Taiwan's defense, the Bush administration also recognizes that this entails major sensitivities and risks in the US-China relationship, at a time when closer Sino-American relations have proven increasingly important to Washington. Washington also recognizes that unconditional expressions of support for Taiwan run the parallel risk of emboldening leaders in Taipei, who may feel unconstrained behind the presumed security guarantees from the United States. In addition, Beijing has made clear that it would view unambiguous moves toward interoperability in missile defense, between the United States and Taiwan, as the *de facto* reconstitution of the US-Taiwan security alliance, compelling it to undertake unspecified but potentially severe reprisals. These circumstances leave unresolved the level of assistance, in terms of software as well as hardware, that the United States deems appropriate for Taiwan's defense, without provoking a disproportionate response from Beijing. Both literally and figuratively, these issues are moving targets.

In the final analysis, the defining factors in the cross-Strait balance are political questions over which a military gloss is increasingly and unhelpfully dominant. Both Beijing and Taipei are embarked upon military modernization programs that affect the United States directly and indirectly. The singularity of a China-Taiwan military scenario

shapes and skews thinking in the defense establishments of both Beijing and Taipei. Both are analyzing the various possibilities of a conflict for which there is no prior combat experience on either side. Both have made assumptions that may trigger consequences that neither is able to foresee or control, putting the two sides on trajectories from which there is no easy exit. Chinese planners, for example, may well have concluded that an ample and increasingly capable SRBM force will inevitably trump any defensive arrangements, while precluding direct US intervention, though potentially at the cost of a war with very dire long-term consequences, both regionally and globally. Taiwanese planners, though, often seem overly detached from the larger implications of their deliberations over future defense strategy, which are all too often defined in the glare of ill informed public debate, to which Beijing then reacts. This dynamic, in which the US could easily become embroiled, is fraught with risk and with the potential for misperception and miscalculation.

Is there a possibility to reverse these trends, or to reach negotiated understandings and constraints? Despite occasional hints from various parties, this prospect seems highly doubtful. The only plausible circumstances for this would be if:

- the United States and China reached an agreement, whereby Washington would forgo a larger defense relationship with Taipei, including in missile defense, in exchange for China's removal of its capability for short-warning missile attack; or
- an agreement between China and Taiwan, whereby Beijing agreed to eliminate its SRBM capabilities in exchange for Taiwan's assenting to a negotiating framework with the mainland, and a binding commitment to forgo moves toward independence.

Both prospects posit a level of trust and mutual understanding that, in light of prevailing political circumstances, seems highly implausible.

The absence of credible negotiating possibilities returns us to alternative scenarios, driven by each side's calculation of gain and risk, which could entail a wide array of political, military, and budgetary implications. A first, and still the most probable, scenario would be

"more of the same." It posits continued competition between China and Taiwan, whereby both sides would pursue separate paths of incremental augmentation and force improvement, constrained principally by the perceived costs of an open-ended force buildup. A second scenario would involve a capping of capabilities, whereby Beijing (especially if provided with assurances about the US forgoing missile defense interoperability with Taiwan) would deem a specific level of missile capabilities sufficient to protect its core political and security objectives. A third scenario would entail accelerated missile acquisitions by China, in response to or in anticipation of future US and Taiwanese collaboration. A fourth scenario would involve a "breakout" defense strategy by Taiwan, possibly including the deployment of its own SRBMs, thereby seeking to achieve greater decisional autonomy and reduced dependence on the United States. None of these scenarios is inherently implausible, and American political and security interests will be directly affected, regardless of the outcome.

In the final analysis, the cross-Strait balance reflects the absence of political and security normalcy between the mainland and Taiwan. Unless, and until such a condition is achieved, both sides seem likely to sustain, and perhaps accelerate, their separate strategies to undermine each other's policy objectives, with no discernible end in sight. The growing military-technological capabilities of both China and Taiwan, and the latent and possibly mounting risks of a hugely destructive cross-Strait military conflict, ought to be hugely sobering to all parties, including the United States. In no sense, therefore, can the United States be judged an innocent bystander. Washington has a compelling interest in constraining any open-ended military competition across the Taiwan Strait, and an even stronger interest in avoiding any breakout of hostilities. The question, therefore, is how such an outcome can best be achieved, when the US is faced with the need to balance its commitment to the non-coercive resolution of cross-Strait differences, the obligation to assist Taiwan in its self-defense efforts, and the ever growing American stake in amicable relations with Beijing. The United States must actively weigh how to employ its leverage with both Beijing and

Taipei, in order to ensure its fundamental policy goals; in no sense will a passive or reactive US policy yield results that would benefit long-term US interests. A keen, continuing awareness of these latter concerns will be pivotal to the prospect of avoiding a major crisis and all its ensuing consequences.

Notes

1 The opinions in this chapter are entirely my own, and should not be attributed to the US Government, the Department of Defense (DoD), or the Naval War College.
2 *Annual Report on The Military Power of The People's Republic of China* [hereinafter *Annual Report*], (Washington DC: US Department of Defense, Report to the Congress Pursuant to the FY 2000 National Defense Authorization Act, 28 July 2003), 18.
3 Nan Li, "The PLA's Evolving Campaign Doctrine and Strategies," in James C. Mulvenon and Richard Yang (eds) *The People's Liberation Army in the Information Age* (Santa Monica CA: RAND, CF-145-CAPP/AF, 1999), 146–74.
4 Mark A.Stokes, "Chinese Ballistic Missile Forces in the Age of Global Missile Defense: Challenges and Responses," in Andrew Scobell and Larry M.Wortzel (eds) *China's Growing Military Power: Perspectives on Security, Ballistic Missiles, and Conventional Capabilities* (Carlisle PA: US Army War College, Strategic Studies Institute, September 2002), 114.
5 For a revealing account of PLA calculations, see the interview with Major General Huang Bin (a professor at the China National Defense University), in Hong Kong *Ta Kung Pao,* internet version, 13 May 2002, http://www.takungpao.com
6 Gill Bates, James Mulvenon and Mark Stokes, "The Chinese Second Artillery Corps: Transition to Credible Deterrence," in James C.Mulvenon and Andrew N.D.Yang (eds) *The People's Liberation Army as Organization,* Reference Volume v1.0 (Santa Monica CA: RAND, CF-182-NSRD, 2002), 510–586; and Kenneth Allen and Maryanne Kivlehan, "Implementing PLA Second Artillery Doctrinal Reforms," paper delivered at the Center for Naval Analyses-RAND Conference on PLA Affairs, December 2002.
7 My thanks to Kenneth Allen, Dennis Blasko and Iain Johnston for clarifying these often arcane measurement issues. See in particular Allen, "PLA Second Artillery Organizational Structure," *Chinese Military Update,* vol. 1, no. 7, January 2004, 1–6; and Allen and Kivlehan, "Implementing PLA Second Artillery Doctrinal Reforms," especially 16–21.
8 *Annual Report,* 22. The 2002 DoD report had cited a figure of 350 in the deployed inventory, "increasing at about 50 missiles per year." Allen and Kivlehan, no. 43, 16.
9 "President Details Missile Threat," *Taipei Times,* 2 December 2003, 3.
10 Annual Report for 2004 Fiscal Year, 23.
11 L.Huang and Lillian Lin, "Taiwanese President Chen Shui-bian Ready to Discuss 'Any Sort of Peace Agreement'," Taipei, Central News Agency, WWW in English, 1 March 2005.
12 Taijing Wu, "Satellite Plan in China Seen as Big Threat," Taipei, *Taiwan News,* WWW in English, 10 March 2005.
13 For an extensive review of relevant Chinese writings, see Stokes, "Chinese Ballistic Missile Forces in the Age of Global Missile Defense: Challenges and Responses," full citation as in note 4; see also Michael D.Swaine with Loren H. Runyon, *Ballistic Missiles and Missile Defense in Asia* (Seattle WA: The National Bureau of Asian Research, vol. 13, no. 3, June 2002), 5–82.
14 According to available data, 10,000 V-1 "buzz bombs" were fired against London between June 1944 and March 1945, resulting in 45,731 casualties (5,126 killed) and the destruction of 130,000 homes. An additional 1,359 V-2s (the first true ballistic missile) were fired against London between September 1944 and March 1945, resulting in 21,380 casualties (2,511 killed) and the destruction of 20,000 homes. The data are available at http://www.cdiss.org.

My thanks to Paul Godwin for calling this information to my attention.

15 Li, "The PLA's Evolving Campaign Doctrine and Strategies," 150–1.

16 See James Mulvenon, "Missile Defenses and the Taiwan Scenario," in Alan D. Romberg and Michael McDevitt (eds) *China and Missile Defense-Managing US-PRC Strategic Relations* (Washington DC: The Henry L.Stimson Center, 2003), 52–60.

17 For an earlier but still useful review of TMD options, including some focused specifically on Taiwan, see *Report to Congress on Theater Missile Defense Architecture Options in the Asia-Pacific Region* (Washington DC: US Department of Defense, April 1999), especially 12–13.

18 See Stokes, "Chinese Ballistic Missile Forces in the Age of Global Missile Defense," especially 117–27; and Swaine with Runyon, especially 53–6, 64–9.

19 For a useful overview by a leading Taiwanese strategic specialist, see Holmes Liao, "Taiwan's Missile Defense," (London: briefing prepared delivery at the Royal United Services Institute, 18–19 November 2002).

20 Joseph Kahn, "US Asks China to Trim Threat to Taiwan," *New York Times,* 12 February 2004, Section A, 12.

5

UNCONVENTIONAL WARFARE OPTIONS

Richard D.Fisher Jr

Introduction

To pursue its goal of "reunification" with Taiwan, the Chinese Communist Party (CCP) led government of the People's Republic of China (PRC) has been employing a range of "conventional" and "unconventional" stratagems and tools. "Conventional" tools refer mainly to military hardware and software systems, which are part of the ongoing build-up and modernization of the Army, Navy, Air Force and Second Artillery forces of the People's Liberation Army (PLA). In addition, the PRC has also been building up its capabilities to employ "unconventional" stratagems and tools, including such channels as the United Front (UF), and psychological, information and electronic warfare, as well as *Shashaiojian* weapons. The PLA has also been building up of a range of "special forces" capabilities that would be appropriate for executing rapid "decapitation" strategies, or for assisting larger conventional military operations against Taiwan and possibly, the United States (US) and Japan.

It is not the intention here to infer that the utilization of conventional and unconventional means is in any way exclusive, rather quite the opposite. The PRC has long employed United Front and psychological warfare operations against Taiwan. Simultaneously, it has been using the modernization of the PLA to assist in both United Front and psychological warfare activities. Should the PRC leadership decide in the future to pursue an all-out war against Taiwan, the latter has also been intended for helping in the weakening of resistance or acceleration of capitulation. Owing to the possible political, economic and military cost that would likely be imposed by the United States and many other countries, this option is presumably the least preferable for the CCP/PLA leadership. As such, it is appropriate to consider how the PRC might seek to advance or even achieve "reunification" by means short of all-out war, with a special focus on PRC unconventional warfare capabilities.

Engaging in an examination of the PRC's capacity to employ unconventional weapons is also useful given China's historic preoccupation with seeking *Shashaiojian,* meaning "assassin's mace" or

“magic weapons.” These are further defined as both secret weapons and methods, which serve to provide deterrence, or “to achieve political, psychological and military victory through a single, decisive blow in combat.”[1] To a degree, this search for “magic weapons” can also be viewed as a search for “asymmetric warfare” advantages. Some suggest that the search for such new and decisive weapons actually reflects a real research and development priority for the PLA, thus deserving of closer monitoring.[2]

Political warfare

Political and psychological warfare operations have been practiced by both Beijing and Taipei, but since 2000 Beijing has increased its attempts of political warfare to divide, isolate, and demoralize Taiwan. These activities, however, are also relevant to future military operations and post-military pacification. If applied effectively they may neutralize Taiwan's political, economic and military leaders, or even turn them into collaborators following a forceful unification. However, regardless of their degree of success, political and psychological warfare activities will eventually require military force for final victory. The United Front operation, under the control of the Central Committee's Leading Group for Taiwan Affairs, is a key tool in the PRC's arsenal. As it has sought to pressure Washington into limiting its support for Taipei, Beijing has also utilized the growing strength and capabilities of the PLA to intimidate Taiwan and the US, which in turn also serves to assist PRC political and psychological operations.

United Front (UF)

Mao Zedong described the United Front (UF) as one of three "special magic weapons," along with armed struggle and party building, which allowed the CCP to win power.[3] Deng Xiaoping, Jiang Zemin and Hu Jintao have also repeated this "magic weapon" designation.[4] While the PRC has continued to maintain a large United Front apparatus, as a means of leading struggles against the enemies of the CCP, the Party has also utilized UF structures and activities to maintain control over its diverse empire by channeling or isolating dissent. The key goals have been to gather the broadest possible basis for support of the CCP, while lauding and consulting diverse views.

A central focus of UF work has been the promotion and maintainance of the "reunification" of China, and as a primary component of the PRC's overall political and military strategy toward Taiwan. United Front activities are likely directed and coordinated by the Leading Group for Taiwan Affairs, reportedly headed by Hu Jintao. Political Bureau Standing Committee Member Jia Qinglin, however, is apparently the highest official actually directing UF work on a regular basis. He has much more experience on the Taiwan "front," having held successive Party posts in Fujian Province from 1985 to 1996.[5] Other members of the Leading Group for Taiwan Affairs with high public profiles include: Liu Yandong as Director of the CCP's United Front Work Department, Wang Daohan as Director of the Association for Relations Across the Taiwan Strait, and General Xiong Guangkai. Xiong's long association with PLA intelligence activities, and the additional participation of Minister of State Security Xu Yongyue, points to an emphasis on PRC "active measures" against Taiwan, a Soviet term connoting political-military infiltration and subversion.

Possible membership, Central Committee Taiwan leading group

Hu Jintao, Secretary General, CCP
Jia Qinglin, Member, CCP Political Bureau Standing Committee and Chairman of the National Committee of the Chinese People's Political Consultative Conference
Tang Jiaxuan, State Councilor
Wang Gang, Director of the CPC Central Committee General Office
Liu Yandong, Director, Central Committee United Front Work Department
Wang Daohan, Chairman of the Association for Relations Across the Taiwan Strait
Chen Yunlin, Director of the Foreign Affairs Office of the State Council *Xu Yongyue,* Minister of State Security
General Xiong Guangkai, Deputy Chief of General Staff of the People's Liberation Army
Source: "Hu Jintao to Meet Chairmen of Taiwan Businessmen's Associations on 25 December," *Wen Wei Po,* 23 December 2003

One might speculate that the ultimate ambition of the PRC's political warfare and UF work might be the utilization of both non-military and military scenarios in its attempt to facilitate a final "reunification" with Taiwan. One scenario may include the PRC's active promotion of successive Kuomintang (KMT)-led governments that would steadily bend to Beijing's dicta on a range of political, economic and international relations issues. If this is deemed not possible, or does not fulfill a PRC "timetable" for reunification, then the PRC may seek to direct its political warfare and UF efforts to organize a core of support on Taiwan, and formulate a regime to be imposed on the Taiwanese people. Such a regime might take power through a coup, which would then be "defended" by a PLA invasion. If the leaders of such a regime hold even a veneer of legitimacy within the pro-mainland community in Taiwan, it may ease subsequent requirements for occupation, pacification, and foreign recognition. At any rate, the PRC will likely seek to put in place a subservient regime comprised of the highest-profile Taiwanese "patriotic

forces."

History may indicate that such a PRC stratagem is not far-fetched. Declassified US documents reviewed by John Tkacik indicate that by mid-1950, US officials had concluded that the highly respected Nationalist General Sun Li-jen was preparing to lead a coup against Chiang Kai-shek, and that by early June 1950, the US State Department "had prepared plans for General Sun's imminent takeover."[6] It appears that in early 1950 intermediaries for Marshal Chen Yi, then chairman of the PRC's "East China Bureau," approached the US Consulate General, which still existed in Shanghai, and were told that relations with the US might improve if there was a regime in Taipei that the communists "could deal with." While General Sun was mentioned in this regard,[7] it is not clear if Sun was in collusion with the CCP,[8] but with North Korea's invasion of the South on 25 June 1950, the situation changed and no coup was in fact attempted.

While General Sun's 2001 exoneration for a suspected 1955 coup attempt against Chiang Kai Shek diminishes the credibility of accusations that he was involved in a previous effort in 1950, this observation at least raises the possibility that Beijing may be tempted to engineer a similar upheaval in Taiwan. Reports of retired Taiwanese military and intelligence personnel taking up business on the mainland (as many as 5,000)[9] should raise questions regarding the ability of the PRC's intelligence arms, like the Ministry of State Security (MSS) or the PLA General Staff Second Department, to gain access to active-duty Taiwan military and security officials.[10] This community has, in some cases, already been exploited by the PRC for engaging in espionage in Taiwan.[11] Though professionally apolitical in regard to Taiwan's politics, it is my observation that a large number of Taiwanese military officers are sympathetic to the KMT for a number of reasons, ranging from anger over President Chen Shui-bian's reforms to place the military under civilian control, to suspicions related to his "independence" tendencies. As such, many may be vulnerable to MSS/PLA approaches. Tkacik concludes that a lesson for the PLA, from the Korean War, "is that a

friendly political-military leadership must be installed in Taiwan simultaneously with a PLA 'shock attack'…[and] It would also help if Taiwan's military leadership is sufficiently ambivalent to dither about a reaction."[12]

For the longer term, PRC United Front work appears to be upon a classic "revolutionary" trajectory. In the late 1980s and 1990s, as cross-Strait contacts, trade and investments took off, the CCP carefully cultivated ties with Taiwanese businessmen and later, Kuomintang personalities. This is now a large community, with estimates of one half to one million Taiwanese now residing in the mainland, primarily in the Shanghai and its surrounding regions.[13] The CCP has responded, in part to the shock of the 2000 election of Chen Shui-bian and the Democratic Progressive Party (DPP), by seeking to infiltrate the Taiwan business community on the mainland. By mid-2000, it was reported that the CCP was demanding Taiwanese businessmen to pledge their commitment against Taiwan "independence,"[14] and even seeking to organize CCP cells in Taiwanese-owned factories.[15] In the lead up to the 2004 Presidential election, the PRC reportedly allowed Pan-Blue politicians to organize members of this community to return to Taiwan to vote.[16]

The limitations of relying heavily on United Front tactics, and ruling through imposed "patriotic forces," is demonstrated by the inability of the CCP government to comprehend fully and respond to the widespread popular calls for greater democracy in Hong Kong. For instance, leading up to the 1997 Hong Kong reversion, the PRC successfully applied UF work to co-opt Hong Kong's leading businesses and to assemble a core of undemocratically chosen "patriotic forces," which it eventually installed to lead Hong Kong.[17] Since 1997 Beijing has also chosen to ignore and isolate Hong Kong's democratic and reformist leaders. The Article 23 controversy, which emerged in early 2003 after Tung Che-hwa's government bowed to Beijing's demands to pass restrictive security legislation, led to the massive street protests in July calling for and supporting greater democracy in Hong Kong. However, when Hong Kong's Chief Secretary Donald Tsang led a delegation to Beijing in mid-

February 2004, to consult on the pace of political reform toward full democracy for the territory, he was told that “patriots,” or people loyal to Beijing, could run Hong Kong.[18] There was then an orchestrated campaign of disparaging statements by such “patriots,” which in light of the 1 July 2004 turnout of over 400,000 Hong Kong residents to protest for universal suffrage, only served to further highlight the declining level of support for Beijing’s “chosen” rulers. Hong Kong’s case offers a potential preview of how Beijing orchestrated United Front manipulation could also backfire in Taiwan.

Psychological pressures

The PRC/PLA leadership has used a range of psychological pressures against Taiwan and the United States with varying degrees of success. Before attacking Taiwan, such pressures may lead to the weakening of the popular will to resist, resulting in more pliable political leaders, and even weaken Taiwan's "alliance" relationships, particularly with Washington. Each of these in turn serves to reinforce the impression that the political momentum is on Beijing's side.

One further form of psychological pressure is direct military intimidation, but the PRC's success level has been mixed. For example, the 1995 and 1996 high-profile military exercises, which aimed to intimidate Taiwanese voters against re-electing President Lee Teng-hui, backfired by resulting in his resounding victory. These exercises further resulted in a US decision to undertake a show of naval force off Taiwan, indicating a level of US resolve to deter, or possibly attack, PLA forces. The PLA show of force, however, very likely led to the US decision to delimit US support for Taiwan in the form of the "Three No's": no support for Taiwan independence; no support for alternate definitions of "One-China"; and no support for Taiwan membership in international organizations.

In response to Lee's July 1999 statements of "special state-to-state" relations, the Chinese leadership undertook a more subtle form of intimidation. While it undertook aggressive PLA Air Force patrols out to the mid-line of the Taiwan Strait, it did not publicly broadcast these activities.[19] To avoid upsetting the Taiwan populace, the Lee government also kept quiet. This exercise was a marked success for Beijing upon two levels: for the first time since the 1950s the PLA was able to assert its control of the Strait out to its midline; and second, even Taipei was forced to acknowledge that PLA intimidation alone could destabilize Taiwan. Additional forms of intimidation include the deployment of PLA Navy ships for reconnaissance and surveillance missions around Taiwan, from six in 2001 to thirty-seven in 2003.[20]

Deception, decoys

Future PLA deception operations will require effective use of psychological operations and of unique military equipment. Deception operations could be used to achieve strategic and tactical goals, but their success will require precision in timing and in the assessment of the degree to which the political leadership in Taipei and Washington can be deceived. The PLA will also depend heavily upon deception in future offensive and defensive military operations. A November 2002 PRC article addressing the issue of "island landing operations," a veiled reference to an attack on Taiwan, stressed the use of decoys to achieve a surprise invasion:

> This means planting all sorts of phony targets, camouflaging or concealing the real targets, and spreading false information in order to confuse, deceive, and lure the enemy. Confusion is one way to achieve a surprise landing. Essentially we would pretend to assemble troops where the enemy resistance is mainly directed, using phony ships, weapons, personnel, fortifications, and airfields, among other decoys. This will effectively conceal the troops deployed where the major landing will take place and achieve the purpose of launching a surprise landing assault.[21]

There are already many open indications that PLA decoys may have physical and infrared characteristics accurate enough to fool many high-resolution satellite and airborne reconnaissance systems. Full-scale decoys could also include missiles, ships, aircraft, and tanks, as well as armored fighting vehicles, command vehicles and other vehicles.[22] Known accurate replicas include full-scale representations of a tank-type first seen in the 1999 military parade, which can simulate the radar and infrared profile of that tank.[23] Chinese sources have also shown pictures of further accurate reproductions, including those of the Su-27/J-ll, J-10, and J-7II fighters, T-88C/T-96 main battle tank, WZ551 anti-tank vehicle, Z-9 and Ka-28 helicopters.[24] These models are of sufficient

detail that it would require a satellite, with a resolution capability of less than one meter, to distinguish between the real and fake.

The application of such detailed decoys raises the possibility of their being utilized to achieve strategic goals, such as pressuring the leadership in Taipei to make fundamental political concessions to avert an imminent invasion. For example, what if during the peak of a crisis the PLA could appear to immediately produce a far greater number of Army amphibious divisions than previously known, and their existence could be confirmed by US satellite imagery? Should Washington be heavily involved in conflicts elsewhere, and with Taiwan lacking the reconnaissance means to independently verify the authenticity of such units, there may be considerable pressure to capitulate.

Information warfare, information attack

The danger of PLA development of information warfare strategies against Taiwan was most recently highlighted by US Deputy Under-Secretary of Defense for Asia and the Pacific, Richard Lawless, who noted, “China is actively developing options to create chaos on the island, to compromise components of Taiwan’s critical infrastructure—telecommunications, utilities, broadcast media, cellular, Internet and computer networks.”[25] For the PLA, like the US military, information warfare (IW) involves “soft kill” and “hard kill” options. Soft kill options include the utilization of computer network attack, electronic warfare like jamming, or electronic and high-power microwave devices to render military or civilian computer networks, weapons or electronic equipment incapable. Hard kill options involve the use of anti-radiation missiles to destroy radar or communications nodes, utilizing anti-satellite weapons or sending special forces to attack critical electronic targets. The PLA recognizes that IW presents an ideal “asymmetrical” warfare opportunity given the already substantial and growing dependence on computer and information technologies by the US and other potential adversaries. It is also likely that the PLA realizes that, as it increases its own use of information-intensive military technologies, they too become more vulnerable to IW weapons and strategies.

If employed exclusively, PLA IW strategies and weapons are not likely to produce victory over Taiwan. If used in concert with political and psychological warfare, IW might succeed in producing diplomatic concessions. Indeed, in an effort to produce decisive military results, IW strategies and weapons are most likely to be employed in concert with conventional weapons.

Computer network attack

In the 1990s the PLA devoted considerable resources to developing the doctrine, and then the infrastructure, to conduct information warfare, particularly via computer network attack (CNA). In 1995, then Major-General Wang Pufeng, the former Director of the Strategy Department of the Academy of Military Sciences wrote, "in the near future, information warfare will control the form and the future of war. We recognize this developmental trend of information warfare and see it as a driving force in the modernization of China's military and combat readiness."[26] PRC analyst Wei Jincheng further stated that "the enemy country can receive a paralyzing blow through the Internet, and the party on the receiving end will not be able to tell whether it's a child's prank or an attack from its enemy."[27] By 1999 the Pentagon recognized that the PLA had "shown an exceptional interest in information warfare and has begun programs to develop IW capabilities at the strategic, operational and tactical levels as part of its overall military modernization effort."[28]

The PLA is now building Information Warfare units. It is reported to have computer-warfare units in the Guangzhou, Nanjing and Jinan military regions, each with approximately 500 specialists.[29] A further report notes that PLA Information Warfare reserve units have also been formed in the cities of Datong, Xiamen, Shanghai, Echeng and Xian. It is likely that such reserve units also include many specialists who work in the civilian computer development and manufacturing sector.[30] In addition, the PLA has also conducted exercises focusing on offensive and defensive computer network attack operations.[31] Possible PLA information operations could include:

- planting information mines
- conducting information reconnaissance
- changing network data
- releasing information bombs
- dumping information garbage
- applying information deception

- releasing clone information
- organizing information defense
- establishing network spy stations.[32]

The PLA places great significance on information operations and their ability to "carry strategies" against its enemies. General Dai Quingmin lists possible goals for PLA information operations to include: the jamming or sabotaging of enemy information systems; attacking the enemy's total information structure; confusing the enemy or creating false diversions for its forces; causing the enemy to make wrong judgements.[33] In combination with, or even preceding a military attack, information operations can sow chaos in the enemy's electronic systems, enhancing the results of follow-up missile, air, or combined arms attacks.

In the event of an attack on Taiwan, it can be expected that the PLA will conduct extensive computer network attack operations against US military and civilian networks believed to be essential to US military operations. As the most information-intensive society, the United States is particularly vulnerable to information attacks. In the event of a war involving the United States, it can be expected that the PLA will use sophisticated computer viruses, or "computer bombs", to attack computer systems that control domestic US air traffic, vehicle and rail traffic, emergency control, financial sectors, water, sanitation, and energy. The PLA's goal will be to sow chaos.[34] Well targeted electronic attacks "could be as devastating to a country's economy as damage inflicted by an intercontinental missile."[35]

It is likely that the PLA is already conducting CNA operations against many US military computer systems. In 1997 the Federal Bureau of Investigation uncovered an effort by a PRC national, working for a US computer company, to plant computer viruses in a critical US Air Force computer system. Zhangyi Steven Liu, then a twenty-four-year-old computer programmer, was believed to have penetrated the Reliability and Maintainability Information System (REMIS) in Dayton, Ohio, which tracks maintenance, readiness, and inventory for the entire US Air Force. Liu worked for Shanghai Tandem Software Ltd, which was

contracted by Litton Industries, the primary contractor for REMIS. The Air Force was then forced into an expensive review of the REMIS program.[36]

In another activity that originates from a "child's prank," the PLA likely is involved in PRC-based "hacker unions." These consist of civilian PRC computer experts, mainly younger individuals, who engage in organized attacks on US, Taiwanese, and other government and private websites, usually to protest actions by their respective governments.[37] Some union members may also be in the PLA.[38] From May 1–7 2000, PRC hacker unions such as the Red Union, China Black Hand Union, and the China Eagle, staged hundreds of attacks on US websites to protest the death of a PLAN pilot after he collided with a US EP-3 electronic intelligence and signals intelligence (ELINT/SIGINT) aircraft the previous month. An indication of possible PLA involvement was that attacks included the websites of small US companies doing business with Taiwan's military, information not usually available to hackers.[39] Such "childish pranks," however, may be providing cover for more organized and ongoing attacks against US computer networks.[40]

Electronic warfare

The PLA is expanding its ability to conduct electronic warfare at the strategic and tactical levels. In recognition of the growing importance of electronic warfare, in 1990 the PLA set up the 4th Department of the General Staff. It manages the electronic warfare (EW) defense of key state and military headquarters in Beijing, and directs EW and SIGINT opera tions down to the division level of the PLA Army, and also for the PLAAF and PLAN.[41] It also manages the development of EW, electronic counter-measures (ECM) and electronic counter-countermeasure (ECCM) systems.

At a strategic level, the PLA may be developing the ability to jam communication satellites, radar satellites, and US Global Positional System (GPS) navigation satellites.[42] These latter signals are not difficult to jam, as they emit at a low frequency. The PLA has also been said to be developing the means to jam US airborne radar and modern communications networks like the Joint Tactical Information Distribution System (JTIDS),[43] a version of which has been sold to Taiwan. At the 2000 Zhuhai Air Show, the 8511 Institute of the China Space Electro-mechanical Group revealed its Radar Signal Environment Simulator. It is reported to be able to simulate 100 radar signals in order to deceive enemy ELINT/SIGINT collectors.[44]

Electronic warfare systems, especially radar and communications jamming, almost certainly exist in all the services of the PLA. The PLAAF uses modified H-5 light bombers for jamming missions, and very likely modifies H-6 medium bombers and Y-8 transport aircraft for similar missions. In addition, fighters like the J-8II or the JH-7 fighter-bomber can be equipped with ELINT and jamming pods for EW missions. At the 1998 Zhuhai Air Show, the Southwest Institute of Electrical Engineering (SWIEE) unveiled its KG300G “Airborne Self-protection Jammer Pod,” which is able to classify and jam air and ground radar in the I and J-bands, and is capable of “automatic alarm and response in the presence of lock-on radar.”

For land forces, a version of the ASN-205 UAV is also outfitted for

electronic warfare missions that could include SIGINT or jamming. Some Z-9 helicopters are also equipped for EW missions. It is likely that the PRC's EW, ELINT and SIGINT capability has been assisted by Israeli and Russian technology. Joint Israel-PRC projects are said to include airborne radar warning receivers, ELINT systems and radar jammers.[45] The PLAAF has also purchased Russian Kaluga bureau SORBITSYA ECM pods for some of its Sukhoi Su-27 fighters. The Sorbitsya ECM pod uses a clever antenna array that allows jamming while the aircraft is maneuvering,[46] a capability not possessed by US jamming aircraft like the EA-6B Prowler. New Russian combat ships of the Sovremenny class would come equipped with extensive electronic warfare equipment. PLA ground forces have purchased the Russian SPR-2 wide-band jammer. It is capable of jamming the fuses of incoming artillery rounds to cause their premature explosion.[47] The PLA apparently has also purchased a GPS/GLONASS system, which jams navigation satellite signals to disrupt the accurate guidance of GPS-guided bombs and cruise missiles.[48] In 1997 the Russians began marketing their 34R63 *Gazetchik-E* system, which can jam signals of anti-radar missiles in order to protect radar sites. It is likely that the PLA has purchased this system or its technology.

Electronic attack

In addition to computer network attacks and electronic jamming, the PLA is simultaneously building capabilities for electronic warfare "soft kill" and "hard kill." In addition to the previously discussed electronic warfare, soft kill options include the use of electromagnetic bombs or high-power microwave weapons for disabling electronic circuitry. In 2002, the US Department of Defense reported that the PLA may be "working closely with foreign scientists and is seeking foreign technology associated with high-power RF (radio-frequency) generation."[49] In late 2004 a US official told the author that indeed, the PLA did have such weapons.[50] Any possible RF, or electromagnetic warheads, would most likely be delivered by aircraft or ballistic missile, and be directed at headquarters, command and key radar facilities. The Pentagon also reports that the PLA is developing microwave weapons that would target the electronic systems of opposing weapons, perhaps based on the Russian Ranets-E system.[51]

Hard kill options include new surface-to-air, air-to-ground, and very likely, air-to-air missiles designed to attack electronic hardware. These anti-radiation missiles are likely targeting Taiwan's fixed early warning radar, *Patriot* missile radar, and the E-2T Hawkeye airborne warning and control systems (AWACS). In 1998 the PLA revealed that its FT-2000 surface-to-air missile (SAM), which has an advertised range of 100 km, or 60 miles, and uses a passive seeker to home in on the emissions of electronic warfare aircraft like the US EA-6B *Prowler* or AWACS aircraft. One report also notes that the FT-2000 has entered PLA service on a limited basis in the Fujian area.[52] The PLA Air Force also has the Russian *Zvezda* Kh-31P supersonic anti-radar missile, which arms the Sukhoi Su-30MKK, the Su-30MKK2, the upgraded Su-27SK and J-11 fighters, and most likely the Xian JH-7A fighter-bombers. With a range of up to 125 miles, allowing stand-off attacks beyond the range of all Taiwanese SAMs, the Kh-31P was designed to counter US *Aegis* and *Patriot* radar. At the 2000 Zhuhai Air Show the PLA revealed a new domestic airlaunched supersonic ground attack missile that can also be

developed into an anti-radar variant. In addition, PLAAF Sukhoi fighters are very likely armed with the *Vympel* R-27EM, a 130 km-range air-to-air missile (AAM) equipped with a passive seeker designed to home in on signals from AWACS radar.

In mid-2002 it was revealed that the PLA had deployed the Israeli Aircraft Industries (IAI) Harpy anti-radar drone near the Taiwan Strait.[53] A later report indicated it was a new version with a dual electro-magnetic/ electro-optical guidance system and a new data link to allow for target-specific steering.[54] Derived from a US-German research program, the Harpy is a small rocket-launched, propeller-driven drone that can loiter for two hours at a range of 400 km, and home in on pre-programmed electronic emissions. So as to increase the chances that attacking PLA aircraft reach their targets, its mission would be to destroy Taiwan's main radar systems.

Outer space exploitation and denial

The PLA is currently developing the means to exploit outer space for military missions, as well as developing systems that could in the near future be used to deny the use of space to potential adversaries like Taiwan and the United States. In particular, the PLA has developed a new generation of radar and optical reconnaissance satellites, combined with communication and navigation satellites, to enable precision targeting for a range of weapon systems including ballistic and cruise missiles. At the same time, the PLA is aiming to combine new micro and nano satellites, developed with British assistance, and new mobile solid-fuel space launch vehicles to form new direct-ascent anti-satellite (ASAT) systems. By the middle of this decade, early ASATs may be capable of destroying Taiwanese, Japanese, and US reconnaissance satellites operating in low-earth orbits.

At the November 2002 Zhuhai Air Show the DFH Satellite Co. revealed the PRC's first radar satellite, the HJ-1C. Such radar satellites are critical, in that they can penetrate cloud cover and are especially useful for finding ships at sea. DFH officials acknowledged that in 1997 cooperation began with Russia's NPO Machinostroyenia to produce a radar satellite.[55] The HJ-1C incorporates the antenna from NPO Mash's "Korsar" radarsat, which has less than one-meter resolution. DFH aimed to launch its first HJ-1C by 2005 and three more by 2010. In addition, NPO Mash may also be providing the PLA with the necessary electro-optical satellite technology for forming the basis for the HJ-1A/B electro-optical satellites.[56] The new radarsats will be paired with two, and then four, new HJ-1A/B optical satellites, for a total network of eight satellites by 2010. When fully deployed, the network of DHF satellites will give PLA planners a twice-daily revisit rate for both optical and radarsats, ultimately supporting a 12-hour campaign cycle.

The full utilization of the information obtained from new reconnaissance satellites will depend on the development of new communication and navigation satellites. Since at least 1996, and according to US officials, the PLA has been using the Hughes HS-376

communications satellite Apstar-1A, which is owned by the Hong Kong company Asia Pacific Telecommunications (APT) Satellite Holdings Limited. China Aerospace Company is a prominent investor in APT, and the PLA has used Apstar-1A to transmit coded messages.[57] While the PRC's German-assisted DFH-3 communications satellite has twenty-four transponders, and can handle six color TV channels and 8,000 telephone calls at one time, the DHF-4 will carry fifty-two transponders; thirty-eight C-band and fourteen Ku-band. The French satellite company Alcatel is to provide the communications payload for this satellite.[58] The DFH-3 satellite bus is believed to be the basis for the new 2,300 kg *Zhongxing*-22 communication satellite, of which two are currently in orbit. The PLA is also making growing use of US Global Positioning Satellites and Russian Glonass satellites. While the PLA has long-term plans to loft its own navigation satellite network, it has also concurrently invested over $200 million in the European *Galileo* navigation satellite network.[59]

Space warfare

In order to deny space exploitation to potential adversaries, the PRC has invested heavily in the development of counter-space and anti-satellite weapons. Owing to its very high reliance on satellite information systems, the US is particularly vulnerable to PLA anti-satellite weapons. Such weapons are also threatening the current and future military satellites of Japan, India and Taiwan. In late 2002 Taiwan claimed it had the capability to jam PRC communication satellites,[60] but it is not known whether Taiwan has any capability to disable or destroy PRC satellites.

China Aerospace Company was a chief proponent of ASATs, if only to deter attack on PRC satellites. Active ASAT measures under consideration by the PLA include ground-based lasers, kinetic kill vehicles[61] and jamming. Kinetic kill vehicles can be based on future micro or nanosatellite systems, and can be launched covertly, piggybacking on commercial launch vehicles and parked in strategic orbits for later use. These are more useful than large ground-based lasers inasmuch as they could be launched on China's future mobile space launchers, which are not tied to fixed sites. In early 2001 China was testing a "parasitic" nanosatellite that could attach itself to a hostile satellite like a limpet mine.[62] Tsinghua University then leapt into the forefront of micro satellite technology when it signed a 1998 micro satellite co-development agreement with Britain's Surrey Space Systems.[63]

A further indicator that the PRC's micro satellite program is linked to a possible ASAT effort is the simultaneous development of a mobile space launch vehicle. Unlike fixed launch sites, which must wait for an enemy satellite's orbit to coincide with an intercept path, a mobile SLV can be prepositioned to allow greater flexibility for an anti-satellite attack. In May 2000 the China Aerospace Solid-propellent Launch Vehicle Co. Ltd (ASLV) was formed to build a solid-fueled mobile space launch vehicle.[64] This company's close relationship to the PLA was illustrated by its opening ceremony, which was attended by former CMC

Vice-Chairman General Liu Huaqing, and then Vice-Commander of the Second Artillery General Huang Cisheng.[65] The 2002 Zhuhai Air Show revealed three new mobile SLVs based on missiles used by the Second Artillery: the Katzouie-1 (Pioneer-1), or KT-1, a four-stage SLV based on the DF-21 MRBM;[66] KT-2 based on the DF-31 ICBM; and KT-2A, believed to be based on the longer-range DF-31A. If used as ASAT systems, each could intercept satellites in low Earth orbit, geosynchronous, and polar orbits respectively.

Perhaps the most unconventional form of space warfare under potential consideration by the PLA, is manned space warfare. The PLA set a prece dent for this with its first four unmanned missions, and its first manned missions of its *Shenzhou* manned space capsule, which engaged in military missions. *Shenzhou* 1 and 2 carried new ELINT equipment and *Shenzhou* 2, 4 and 5 carried electro-optical reconnaissance cameras. Mark Wade, chronicler of the *Encyclopedia Astronautica* web page, concluded, "it may be inferred that the main mission of China's first manned spaceflight will be military imaging reconnaissance."[67] This raises the prospect that future *Shenzhou* missions, and perhaps even future larger and permanent manned space stations, will be used to perform military functions. Should larger manned space stations be equipped with reconnaissance equipment, the future question arises of whether it will be armed for defense, which would also entail the prospect of "offensive" armament.

Special operations capabilities and decapitation strategies

It is very likely that the PLA has closely observed how the US has transformed its special operations forces (SOF) and projection forces, like airborne and marine units, from supporting larger Army formations into principal ground combat forces. In Hungary, and then Afghanistan, the former Soviet Union used its airborne and *Spetznaz* special forces in the "traditional" manner; however, in order to bring about the collapse of the Taliban regime, in 2001 in Afghanistan, the US combined small units of highly elite CIA, Army, and Air Force troops to conduct targeted operations and direct masses of precision-guided weapons dropped from US aircraft. While the PLA may not yet be ready to replicate this level of sophistication and technology, it has closely studied recent US operations in Afghanistan and Iraq.[68] The Pentagon has noted that the PLA has the ability to "adopt a decapitation strategy, seeking to neutralize Taiwan's political and military leadership on the assumption that their successors would adopt policies more favorable to Beijing."[69]

Airborne forces

A 2001 Taiwanese assessment of PLA airborne forces presented a view that they have begun to view themselves as moving beyond an auxiliary, supporting arm, to that of a decisive arm, particularly with respect to an invasion of Taiwan.[70] In this view, airborne forces alone would capture key targets in Taipei and cut off the capital city. Such an attack, when combined with massive electronic, missile and air attack, is viewed by some in the PLA as sufficient to force Taiwan's capitulation.[71] For the PLA, however, such an operation would require intense preparation for its airborne forces, forces which have had no modern combat experience. Nevertheless, it appears that PLA airborne exercises are growing in size and complexity. The Soviet Union's use of airborne forces in Hungary, and US airborne deployment to the Persian Gulf, are models receiving intense examination in China.[72] In early December 2000, the commander of Russian airborne forces visited China with the expressed purpose of meeting with PLA airborne leaders and to visit their units. He praised the training of PLA airborne troops and called for closer Russian-PLA cooperation in airborne unit training.[73]

While said to be the largest unit that could come under the direct control of the Central Military Commission (CMC) in an emergency,[74] the PLA's 15th Airborne Army is normally under the direct control of the PLAAF Headquarters.[75] It is said to have four subordinate divisions,[76] with an estimated strength of about 46,000 troops.[77] The 15th Airborne Army also has a new special forces unit.[78] Taiwanese sources have also noted the secret formation of a new brigade, and the pending formation of two new divisions for a total of six divisions, with an eventual projected growth to 70,000 men.[79] You Ji cites Chinese General Li Yuliang as having proposed that the PLA have the ability to para drop 100,000 troops by early this century.[80]

In late 2003 reports also emerged, mainly from the Hong Kong press, that in the course of a future round of military force reductions, the PLA was going to form a new 16th Airborne Army. Its purpose is to serve as a

support force for consolidating areas initially secured by the 15th Airborne Army, but it is also going to be primarily based in the Hangzhou area, which is approximately an hour's flight to Taipei.[81] Furthermore, following Defense Minister Cao Gangchuan's December 2003 visit to Russia, there were Russian reports that said that the PLA was planning to purchase thirty Il–76 transport aircraft,[82] in addition to the twenty they already have. While some sources estimate that the PLA would require seventy Il-76s to move an airborne division, it is also necessary to consider that that the PLA can and most likely will use hundreds of civilian Boeing and Airbus transports to supplement Il–76 and Y-8 transports following the capture of airfields on Taiwan. Another mid-2004 report noted that China was negotiating for the purchase or co-production of the very large Antonov An-124 transport, which can carry 120 tons of cargo or 448 troops.[83] With the 2003 purchase of an additional twenty-five Russian Mi-17 transport helicopters, PLA numbers will exceed 200, each of which can transport twenty-four fully armed troops to locations as far as western Taiwan.

New airborne weapons

Airborne forces and special forces are also receiving new weapons, but just as important are the new parachute systems for delivering heavy equipment that the PLA is developing. At the 2002 Zhuhai Air Show, one was able to observe the new multiple parachute deployment systems for dropping heavy vehicles. In terms of new airborne weapons, PLA Airborne forces have up to 100[84] Russian BMD-3 airborne tanks—the world's best airborne combat vehicle. This 13-ton vehicle is armed with a 30 mm automatic cannon, up to six 4 km range laser-guided Konkurs anti-tank missiles, and can be airdropped with the crew inside. The PLA may also have access to the more modern BMD-3M, which is armed with a 100 mm gun that can fire the 5.5 km range laser-guided Arkan anti-armor missiles. These missiles out-range the 105 mm guns on Taiwan's M-60 and M-48 tanks and can shoot down helicopters.

Airborne troops have long made use of the half-ton BJ212 Jeep, which in recent years has been armed with the HJ-8 anti-tank missile.[85] In 2001 the PLA revealed a new 1,950 kg *Light Buggy,* which is intended for airborne and special forces units and can be airdropped.[86] This buggy carries no armor protection, but instead uses speed and assorted weapons, including a 23 mm cannon, automatic mortars, HJ-73 and HJ-8 anti-tank missiles, and machine guns. In 2002 the PLA further disclosed the development of its 1.5 ton Nanjing NJ2046 air-droppable light truck. Based on the Italian Iveco design, and now co-produced in the PRC, it can carry 1,500 kg of troops, cargo or weapons. At the 2003 IDEX show the PLA exhibited a picture of this new light truck equipped with a HJ-9 laser-guided anti-tank missile, which may mean it is intended for PLA airborne units. Airborne units can also be expected to be early recipients of a new 2.5–3-ton high-mobility multi-purpose wheeled vehicle (HMMWV), which is copied from the widely used US HUMVEE.

Furthermore, airborne forces could also have access to four new types of large-gun armed armored personnel carriers (APCs), to include a 122 mm,[87] a 120 mm,[88] and 105 mm gun, as well as a 120 mm mortar.[89] The latter appears to be a copy of the Russian *Nona-SVK* mortar-armed APC,

designed to use laser-guided shells. While the degree these new APCs are being used by the PLA is not known, such vehicles can be carried by Il–76 or An-70 size transports, and can provide airborne troops with the necessary mobile heavy guns needed to secure an airfield.

Special operations forces (SOF)

The Pentagon has noted that the PLA has "devoted considerable resources to the development of Special Operations Forces," as "an integral element of ground force modernization."[90] Each of the seven Military Regions has a special operations *Dadui* (unit).[91] Another source notes that each PLA Group Army has a special operations battalion, for a total of 25,000 men for the whole Army.[92] According to a Chinese source, SOF units range in size from 100 to 1,000 men,[93] although one source notes that the SOF are comprised of division-size units in the Chengdu, Lanzhou and Shenyang Military Regions.[94]

The PLA is also reported to have built up to six Western-style long-range operations groups. The first of such units was built up in the Guangzhou MR, became operational in 1989, and comprised of 4,000 troops receiving army parachute, air force deployment, and naval scuba training. It is also equipped with satellite communications, GPS navigation equipment, and a wide range of PLA and Western weapons. Most of its officers are university educated, and its soldiers are cross-trained in a variety of tasks.[95] Five new, and more intensely trained units, were to be deployed by 2003. It was expected that these units would provide the initial clandestine assault units for future Taiwan operations, but they also have the ability to perform counter-terrorist operations.[96]

PLA SOF missions are likely to include: conducting battle surveillance and battle damage assessment; locating and/or destroying C4I nodes; destroying logistic depots; capturing and/or destroying airfields and ports; supporting invasion forces; destroying air defense assets; conducting denial and deception operations; psychological operations; and conducting information operations.[97] These units will also provide target illumination, to assist in guiding precision weapons.[98] It is also possible that PLA SOF teams will also be involved in attempts to capture opposing military and political leaders. SOF personnel are chosen for their physical stamina and are expected to be able to operate light and heavy weapons, foreign weapons, and multiple transports such as tanks,

trucks, helicopters and assault boats.[99] Another source notes that PLA SOF units are also making use of female combatants.[100]

In a campaign against Taiwan, it is even possible that SOF units will operate against US forces, particularly those bases in Japan. During the 2001–2 US war against the Afghanistan Taliban regime, it was reported that the PLA sent small units of special forces into Afghanistan to monitor US operations. It is also possible that PLA special forces may be used to infiltrate Taiwan for short or long-term periods, taking advantage of economic and cultural opportunities. For example, an estimated 30,000 mainland citizens have worked in Taiwan's fishing fleet,[101] and as of mid-2002 there were over 400 mainland-origin brides on the strategic island of Penghu.[102]

By following the US example set during the first Gulf War, and more recently in Afghanistan, the PLA Army has spent the last decade investing heavily in equipping and training its special forces.[103] In fact, there has been substantial open source information, from the PRC, indicating that special forces are trained hard for their intended tasks. Special forces troops are being trained with powered para-gliders, which can transport lightly armed troops up to distances of 100 km, and the PLA has also purchased fast and small commando transport ships from Sweden. As SOF units are often portrayed emerging from Mi-17 helicopters, these units have access to the best weapons and equipment the PLA has to offer. They employ a variety of PLA small arms and Western small arms, all modified when necessary. Following a trend started by the US and European armies, PLA special operators may be the first to use a new range of large 50-caliber long-range sniper rifles. Perhaps taking their cue from the US *Land Warrior* program, the PLA has also revealed that it is seeking to add digital connectivity to selected ground units, most likely starting with special forces. At the 13 October 2000 PLA exercise/fire power display outside Beijing, the PLA revealed special forces equipped with a helmet-mounted TV camera and view screen.[104] While quite unwieldy, it is being succeeded by systems that are smaller and more flexible. Such communications systems are useful for

sensitive missions of high political impact, such as the capture or elimination of Taiwan's political leadership, as they have the ability to immediately broadcast the result to Taiwanese and the world.

Conclusion

In assessing the military balance across the Taiwan Strait, it is critical to take into account growing PLA capabilities in “unconventional” warfare. While not always by a “mirror image” fashion of the US, the PLA is seeking to develop and apply new technologies and stratagems that can force the rapid military and political collapse of an opponent, which at the present time is the democratic government in Taiwan. Many unconventional options available to the PRC/PLA have their root in historical Chinese or revolutionary experience, but are being refashioned for modern conditions. As such, it is important to continue to monitor PRC political warfare tools such as the United Front, as well as newer “magic weapons” like electromagnetic devices, and evolving “conventional” airborne or special operations forces which are becoming key tools for “decapitation” strategies.

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6

CONTROLLING THE AIRSPACE OVER THE TAIWAN STRAIT

Kenneth W.Allen and Jeffrey M.Allen[1]

Controlling the airspace over the Taiwan Strait is one of the most important factors in determining the success of any military conflict between Beijing and Taipei. No longer is it simply a matter of which aircraft or pilots are the best at close-in air-to-air combat. Pilots must be able to conduct long-term, sustained 24-hour operations, work from damaged airfields under attack from missiles, and avoid being shot down by enemy and friendly surface-to-air missiles (SAMs) and anti-aircraft artillery (AAA). They must also be able to launch and avoid air-to-air missiles (AAMs) launched from beyond visual range (BVR), employ initiative in the air, and direct and receive ground-based and airborne command and control.

Furthermore, control over airspace entails offensive strikes against the enemy's airfields, command and control facilities, ports, and civilian economic and political infrastructure, and conducting suppression of enemy air defense (SEAD), as well as defending those same targets in their own country. Advances in technology, such as stealth, long-range precision-guided munitions, and intelligence and surveillance capabilities and tactics have also changed the nature of controlling airspace into one of precision and organization.

Last, but not least, air forces must train rigorously in all of these aspects for all times of the day and night, and to be able to put them all together during an actual conflict. This is a particular challenge for the United States (US) and Taiwan, who must also be able to coordinate their actions. Unlike the coalition forces during the 1991 Gulf War (Operation Desert Storm) and the Kosovo conflict (Operation Allied Force), which had been training together for years, the US and Taiwan forces have not

trained together in Taiwan since the 1970s.[2] This is also a challenge for the People's Liberation Army (PLA), which is just beginning to involve itself in joint service operations.

This chapter examines some of the basic issues and concepts for China, Taiwan, and the United States that are involved in controlling the airspace over the Taiwan Strait. This chapter does not provide a comparison of the numbers, types, and capabilities of the aircraft and SAMs that each side

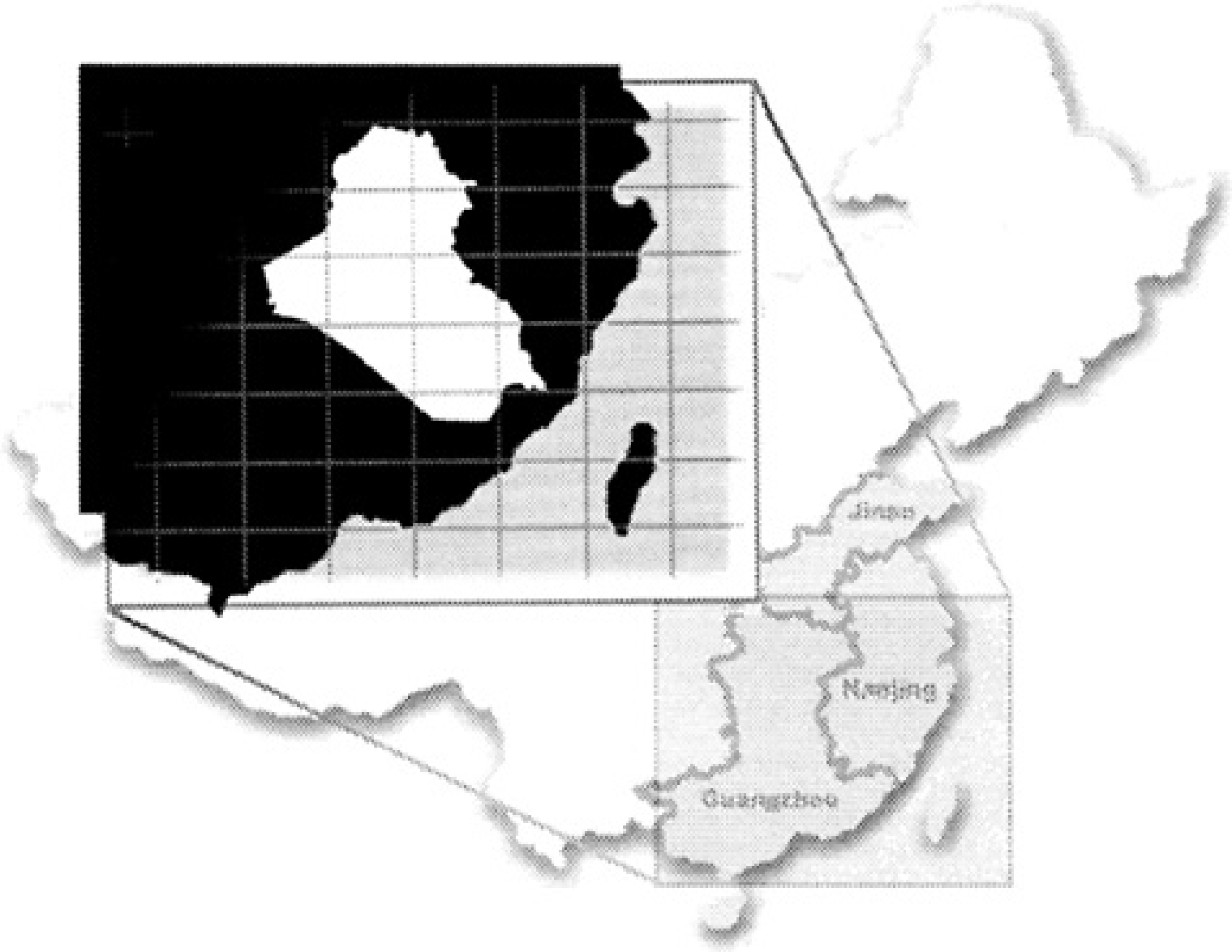

Figure 6.1: Spatial comparison of Iraq with the Nanjing, Jinan, and Guangzhou Military Regions.

has, though it does provide gross numbers of aircraft available in Appendix A. Given the complexity of conducting an air campaign, it is

virtually impossible today to predict which side will be able to control the airspace over the Taiwan Strait in a future conflict through the comparison of capabilities.

The chapter begins, instead, by reviewing US military air campaigns in the 1991 Gulf War (Operation Desert Storm), the 1999 Kosovo conflict (Operation Allied Force), and the 2003 Iraq War (Operation Iraqi Freedom). The second section lays out a baseline scenario for the air campaign. The third section addresses the People's Liberation Army Air Force (PLAAF) and Taiwan Air Force (TAF) combat experience. The fourth section provides information on air campaign doctrine for the PLAAF, TAF, and US Air Force (USAF), US Navy (USN), and US Marine Corps (USMC). The fifth section provides a description of the airspace over the Strait, some key airspace control terms, the forces involved, and how the airspace might be divided into sectors during the campaign. The sixth section takes a short look at air-to-air tactics. The seventh section examines some of the limitations, by the three countries, in the successful implementation of their airpower. It then finishes by providing several conclusions. Appendix A gives a brief overview of aircraft available for the three participants, and Appendix B provides some definitions for key airspace control terms.

Table 6.1 Comparing recent American air campaigns.

Recent American air campaigns

It is common knowledge that the PLA has conducted extensive analysis of US military operations, over the past several years, to see what lessons it could learn and apply to a possible Taiwan Strait conflict. The aim of their analysis is twofold, to learn how to conduct their own offensive operations and to determine how to defend against the United States if it, as Beijing expects, enters into the conflict.

This section shows how recent air campaigns were implemented to achieve air superiority, and how the forces employed were able to achieve this goal in a short period of time. Given that no two air campaigns are the same, including the political limitations imposed on each side, the examples provide a baseline for trying to understand the types of activities that might occur over the Taiwan Strait. Figure 6.1 provides a comparison of Iraq with the Nanjing, Jinan, and Guangzhou Military Regions, which would most likely become part or all of the Nanjing War Zone during a Taiwan Strait conflict. Two features of these three campaigns that would most likely be different from a Taiwan Strait conflict, is that there was no significant air-to-air combat or war-at-sea as the US and its allies had overwhelming quantitative and qualitative superiority. In a Taiwan scenario however, air-to-air combat and war-at-sea will play prominent roles, and will have an influence on the aircraft available to be fragged for offensive counter-air (OCA), defensive counter-air (DCA), strike, and other missions that impact airspace control.

Table 6.1 provides a comparison of key details for the three air campaigns. Additional data is provided in the write-up for each campaign.

The Gulf War

The 1991 Gulf War provides a good example of how the US and coalition air forces conducted operations to control the necessary airspace. The air campaign lasted forty-three days. A total of 2,400 coalition aircraft, including 1,800 from the US, participated.[3] The air campaign passed through several phases as it accomplished successive objectives.[4] The plan first called for the establishment of air dominance over the Kuwaiti theater of opera tions, which was accomplished on the first day. The plan then called for achieving air supremacy, which meant that coalition forces essentially had unchallenged control of the skies. Without their command and communications centers, the Iraqi high command could not effectively direct and deploy their forces, arrange for supplies, or communicate important information.

After destroying Iraqi air defenses, the air campaign concentrated on destroying the Iraqi Air Force by shooting their planes from the sky, destroying them in their hangars, and destroying their airfields and runways. This was accomplished in ten days against heavily fortified air defenses armed with Soviet-made SAMs, sophisticated radar systems, numerous AAA installations, and advanced Soviet-made MiGs and French-made Mirage fighters with Exocet missiles. Coalition aircraft also conducted close-air-support (CAS) and battlefield air interdiction (BAI) missions in support of ground forces.

One particular issue, during Desert Storm, which relates directly to a Taiwan Strait conflict, is whether US forces would attempt to go after and destroy PLA short-range ballistic missiles (SRBMs). After Iraq launched its first Scud missile, coalition forces began to focus on destroying the launchers.[5] Although Iraq launched only a total of eighty-six ballistic missiles, “Scud hunting” consumed a significant amount of coalition time and resources.[6]

During Desert Storm, coalition air forces flew 112,000 sorties, of which 44,145 were dedicated to combat.[7] According to a 1997 US Government Accounting Office (GAO) report, US aircraft expended a

total of 227,165 munitions.[8] Of the 85,000 tons of bombs dropped by the coalition, fewer than 10 percent were precision-guided munitions (PGM).[9] According to another report, the USN launched a total of 288 Tomahawk land attack missiles (TLAM) and the USAF launched thirty-nine air-launched land-attack cruise missiles (ALCM).[10] Some USAF bomber missions flown directly from the US lasted thirty-five hours and covered 14,000 miles (22,500 km).[11]

Although gross numbers are impressive, some days were more intense than others. For example, during the first twenty-four hours of the air campaign, coalition forces flew 2,775 sorties.[12] Of these, thirty-seven targets were in the Baghdad area, 200 sorties were against airfields, 175 against Scud targets, 750 were interdiction sorties against the Iraqi Army and its supplies, 436 were combat air patrols (CAPs) or defensive counter-air sorties, 652 were offensive counter-air sorties, and 432 were tanker sorties.

Operation Allied Force

During Operation Allied Force in 1999, coalition air forces followed the same basic concept for trying to degrade the Serbian air defense network, but it was not as successful as in Iraq.[13] The primary reasons included bad weather, hilly terrain, Serbian dispersal tactics, and air defenses that were more robust than expected. Efforts to attack the internetted communications links of Yugoslavia's integrated air defense system (IADS) were further hampered by the latter's underground command sites, buried land lines, and mobile communications centers. Using what was called radar input, which allowed for the acquisition and tracking of North Atlantic Treaty Organization (NATO) aircraft from the north and the feeding of the resulting surveillance data to radars in the south, the internetting enabled the southern Sector Operations Center to cue defensive weapons without having an active radar anywhere nearby.

The coalition forces had approximately 700 aircraft dedicated to Operation Allied Force, of which 555 were American.[14] The air offensive against ground targets was brought to a halt for days on end, as targets remained obscured by clouds.[15] For example, throughout its first week, the air campaign averaged only fifty strike sorties a day, in sharp contrast to Desert Storm, which featured more than 800 a day during the first week. Throughout the entire 78-day operation, there was at least 50 percent cloud cover for over 70 percent of the time. In addition, the need to minimize civilian casualties demanded visual identification and the use of precision weapons. Without a reasonably clear optical path, however, laser-guided bombs could not be employed.

In the end, Yugoslavia's determination to husband its IADS forced allied aircrews to bomb from above 15,000 feet, by and large, and to remain constantly wary of radar-guided SAMs, even though that altitude gave them a sanctuary against AAA and man-portable air defense systems (MANPADS) threats. These developments, in addition to other problems encountered, raised basic questions about the adequacy of the SEAD tactics being employed.

Furthermore, due to the absence of a credible ground threat, as NATO

had declined to present from the outset, Serbia's ground forces were able to survive through the dispersal and concealment of their tanks and other vehicles.

In the final tally, allied aircrews flew 37,465 sorties, an average sortie-generation rate of 486 missions per day.[16] In the early days of the campaign, however, the sortie rate over Yugoslavia was limited to around 150 missions per day. In addition, twenty-seven E-3 AWACS, including seventeen from NATO, flew 7,800 hours. Of the total sorties, 14,006 were strike and SEAD sorties. One third of the 23,000 munitions expended were unguided Mk 82s dropped by B-52s and B-1s during the campaign's last two weeks,[17] and between 3,000 to 5,000 of these munitions were delivered against some 500 fixed targets in Serbia and Montenegro. The remainder was dropped on fielded enemy forces in Kosovo. Throughout the conflict, USN ships fired about 450 TLAMs and USAF B-52s launched 90 ALCMs.[18] The 23,000 munitions equated to a total of 6,303 tons,[19] with a total munitions cost of $320 million.[20]

In a telling reflection of the coalition forces' determination not to lose a single aircrew member, some 35 percent of the overall air effort was directed against enemy air defenses.[21] In addition, there was virtually no air-to-air opposition. Thanks largely to these factors, only two allied aircraft were downed and not a single friendly-fire fatality was incurred.

Operation Iraqi Freedom

Although analytical information on the air campaign for Operation Iraqi Freedom, which lasted for twenty-six days, is still incomplete, some initial information is available. A total to 1,801 coalition force aircraft participated, including 863 USAF, 372 USMC, 408 USN, 20 US Army, 3 Canadian Air Force, 22 Royal Australian Air Force, and 113 Royal Air Force. Of these, 721 were fighters and 51 were bombers. The remaining aircraft provided various support missions.

According to the official CENTAF report of 30 April 2003, coalition forces flew a total of 41,400 sorties, including 24,196 for the USAF, 4,948 for the USMC, 8,945 for the USN, 269 for the USA, 2,481 for the Royal Air Force, and 565 for the Royal Australian Air Force.[22]

During the campaign, 153 ALCMs and 802 TLAMs, plus 18,993 other precision-guided munitions (8,618 laser-guided and 6,542 GPS/JDAM) were launched, and 9,251 dumb bombs were dropped for a total of 13,695 tons of munitions.[23]

According to one report, the coalition forces flew almost 50,000 fixed-wing missions, of which the USAF flew roughly 30,000, the USN 9,500, the USMC 5,500, and the Royal Air Force and Royal Australian Air Force about 5,000.[24] Of these missions, some 36 percent were strike sorties, 20 percent tanker missions, and 25 percent airlift missions, with 4 percent miscellaneous. During this period, 28,820 munitions were dropped, of which 66 percent or 19,060 were precision-guided. The total cost for these munitions was $1.4 billion.[25] Aerial refueling provided 417 million gallons of fuel to all the services,[26] and another 195.7 million gallons of jet fuel was provided by land- and ship-based sources.

The Taiwan scenario

For purposes of this chapter, the basic scenario assumes the following:

- the military conflict and the contest for controlling the airspace over the Strait has just begun;
- the United States military is actively involved in the conflict; and
- airfields, ports, command and control facilities, SAM sites, AAA sites, and radar sites on both sides of the Strait are being attacked by cruise and ballistic missiles, thus reducing aircraft sortie generation for the PLAAF and TAF.[27]

Although these are important issues, this chapter does not predict the total number or exact types of aircraft involved, munitions availability, or the location from which US aircraft are operating.

Combat experience

One of the difficulties in predicting how a future conflict will play out is that the United States is the only one of the three parties involved which has had any recent combat experience. The last significant air-to-air combat for China or Taiwan took place against each other from 29 July to 10 October 1958, over the Taiwan Strait.

The data reported by the two sides on combat victories and losses during the 1958 conflict, vary widely and can cause misperceptions in Beijing and Taipei even today. For example, according to Beijing's data, the PLAAF and Naval Aviation flew 3,778 sorties in 691 groups from 18 July until the end of October. Their aircraft engaged in thirteen air battles, shooting down fourteen and damaging nine Nationalist aircraft. The PLAAF is said to have lost only five aircraft and had five damaged. In addition, PLAAF AAA units were involved in seven battles, shooting down two and damaging two aircraft.[28]

In contrast, according to USAF data, there were twenty-five air-to-air engagements. Nationalist pilots destroyed thirty-two aircraft, probably downed three more, and damaged ten, while the Nationalist forces lost four of their own aircraft.[29]

During the conflict, the US military was involved in helping the Nationalists re-supply Quemoy (a.k.a. Kinmen or Jinmen). On one occasion, the US Navy used a convoy of landing ships to carry preloaded, tracked amphibious craft manned by Nationalists to a point 5 km from Quemoy, where they disembarked from the landing ships, darted through shellfire, and scurried ashore to inland unloading areas. In addition, the United States flew air cover 20 to 40 km south of Quemoy, while Nationalists F86s flew cover for C46 transports, while air-dropping supplies.

Prior to the 1958 conflict, the PLAAF did not have a presence in Fujian Province and Nationalists were able to fly at will over portions of the mainland as far north as Tianjin. However, following the conflict only Nationalist-flown high-altitude U-2 reconnaissance aircraft were flown over the mainland. Until the late 1990s, even though there was a nominal

“middle line”, the Nationalist Air Force controlled the airspace over the Taiwan Strait, while the PLAAF and Naval Aviation limited their CAP reaction flights to coastal routes. This situation has changed since the late 1990s, when the PLAAF began “routinely” flying to the “middle line.”[30]

Air campaign doctrine

This section examines PLAAF, TAF, USAF, USN, and USMC air campaign doctrines. One of the most difficult problems for analysts of the PLA is trying to take PLA doctrinal terminology, and equate it one-for-one with US military doctrine. For example, the PLAAF discusses “offensive air campaigns” and “air defense campaigns,” while the USAF discusses “counter-air” operations in terms of “offensive counter-air” and “defensive counter-air.” The USN/USMC discusses similar concepts using the terms “offensive anti-air warfare” and “air defense.” The concepts may be similar, but the terms used are different. Therefore, to understand the PLAAF, one must look at these terms through Chinese, not American, eyes.

Once the conflict begins, the PLAAF would most likely simultaneously implement four separate types of campaign—offensive air, airborne, air defense, and joint anti-air strike campaigns.[31]

According to the PLA National Defense University's *Science of Campaigns,* a PLAAF offensive air campaign includes the following missions, which could be conducted in conjunction with a Second Artillery conventional ballistic missile campaign:[32]

- Attack the enemy's air defense system, destroy the enemy's key early warning and control facilities, annihilate and suppress airborne operations and anti-air weapon systems, as well as destroy the enemy's aviation industry and flight training bases by obtaining air superiority.
- Attack the enemy's military industry and political and economic centers, and destroy, or severely damage, the enemy's potential to continue the war.
- Destroy the enemy's railroads, transportation nodes, ports, bridges, and transportation systems, as well as those supply networks that are deep behind enemy lines, and obstruct the mobilization of troops in the rear.
- Attack the enemy's strategic and campaign reserve forces or other combat units, and destroy or weaken the enemy's combat strength.

A primary goal is to implement an airborne or amphibious landing campaign to put "boots on the ground." Unless the PLA can first suppress the enemy's air defense assets and keep its aircraft out of the air completely or to a particular portion of the air for a specified period of time, an airborne campaign will not succeed. According to *Science of Campaigns,* an airborne campaign has eight main missions:[33]

- Capture the enemy's political, military, and economic centers or other strategic locations, thereby directly realizing strategic objectives.
- Capture important targets or areas in the enemy's strategic and

campaign depth and support the offensive operations of the main army and naval forces.
- Mount sabotage operations in the enemy's rear, to support operations in the front line battlefield.
- Prevent the enemy's campaign reserves from maneuvering and reinforcing.
- Damage the enemy's defense system.
- Capture enemy naval and air bases, plus ports and airfields.
- Damage or destroy enemy missile launching positions.
- Damage the enemy's command system, communications system, and transportation hubs, and degrade the enemy's overall combat capabilities.

If the conflict were limited to a Taiwan military involvement, the PLAAF could focus most of its force on an offensive campaign. However, if the US is also involved, it will be forced to implement an air defense and joint anti-air strike campaign—both of which have similar goals. According to *Science of Campaigns,* the basic objectives of an air defense campaign are to disrupt the enemy's intended air strikes and to protect the safety of important targets. To achieve these objectives, PLAAF missions include the following:[34]

- Deny and, when possible, attack the enemy's aerial reconnaissance, pay close attention to air activity, discover and determine in a timely manner when and how the enemy's attack will be conducted, and notify all units and people's air defense organizations of said information.
- Resist the enemy's attacks and those weapons designed for use against our political and economic centers, key military facilities, industrial base, and transportation nodes, to ensure these receive little or no damage from an air attack.
- Protect troop concentrations and troop movements.
- Organize counterattack operations aimed at destroying or weakening the enemy's air strength.
- Organize airborne electronic countermeasures and fight the enemy for

electromagnetic superiority.
- Organize defenses to reduce human and materiel losses.

Taiwan Air Force

As it is constituted today, the TAF is primarily a defensive force with a limited ground attack capability. Taiwan's current defensive military strategy, which has existed since the early 1990s, is based on the following three principles: check the enemy at the mainland's coast, strike the enemy in transit, and annihilate the enemy at the water's edge.[35] In sum, this is an Army-centric defense-in-depth concept designed to meet the enemy at the water's edge. Under this concept, the TAF's role is to fight for local air superiority. The TAF should therefore, first combine SAMs and aircraft to gradually weaken incoming aircraft in a multi-layer intercept scheme. Thereafter, it should seek to destroy some enemy aircraft, and make good use of underground air facilities to preserve some of its aircraft for the final decisive anti-landing operation. To achieve strategic sustainability, the TAF should employ limited countermeasures, while also avoiding a decisive campaign.

Taiwan's *Air Force Operations Basic Doctrine* emphasizes joint air defense. which combines air and land anti-aircraft forces by using multi-layer interception to fight for air superiority. The SAMs and AAA should be the first units to engage the enemy aircraft. Taiwan's aircraft would only engage at the most advantageous situation, which is when the number of enemy aircraft is inferior. Under this concept, Taiwan's air-defense-in-depth posture would be set by two layers of missile engagement zones (MEZ) as the first line of defense—one is 70–60 nautical miles (nm) (130–110 km) off Taiwan's coast and the other is 30–20 nm (55–35 km), while the TAF's interceptors cooperate with field air defense units to engage enemy aircraft that have escaped interception within the range of 20 nm. According to a January 2004 *Taipei Times* article, China's aircraft can reach Taiwan in just ten minutes from the two closest bases on the mainland.[36]

US Air Force

USAF doctrine covers multiple types of missions, but for the purpose of this paper, only "counter-air" is discussed. According to *Air Force Doctrine Document 2–1 (Air Warfare),* counter-air consists of operations to attain and maintain a desired degree of air superiority by the destruction or neutralization of enemy forces. Both offensive and defensive actions are involved.[37] The former involves aggressively neutralizing enemy forces inflight or the supporting infrastructure on the ground, while the latter describes reactively engaging enemy aerospace forces that have already been launched on an offensive mission.

With fewer forces permanently stationed at overseas locations from which force may be directly applied against an enemy, the USAF is becoming more expeditionary in nature.[38] The air expeditionary force (AEF) provides a task-oriented force that can be rapidly deployed to any part of the globe, to perform any lethal or non-lethal missions. Global power missions, such as B-52 and B-2 strikes from CONUS (Continental US) bases, provide an important source of aerospace power that do not depend on either forward bases or sea access, although long-range missions result in fewer sorties per day than in-theater forces can provide. This is somewhat offset, however, by the large number of weapons that can be carried by long-range bombers and the growing family of independently targetable precision weapons that enable strikes against multiple targets during a single bomber sortie. Provided that proper air refueling support is available, shorter-range forces can also be employed on very long-range missions.

US Navy and Marine Corps

The USN and USMC are involved in three categories of air operations: strategic, operational, and tactical.[39] *Strategic air operations* are conducted as part of the overall military strategy. They are the application of military force to secure policy objectives. Strategic air operations are directed against vital targets. These operations produce progressive destruction and disintegration of the enemy's war-making capacity. *Operational air operations* link strategic and tactical air operations by using tactical results to attain strategic objectives, and project power well in advance of close operations as a means of shaping events in time and space. *Tactical air operations* are conducted as part of the immediate battle campaign and have a direct relationship to the overall offensive campaign.

Anti-air warfare (AAW) is a US Navy and US Marine Corps term used to indicate the actions required to destroy, or reduce to an acceptable level, the enemy air and missile threat.[40] To gain and maintain air superiority, both offensive and defensive AAW operations are normally required. Since the complete destruction of enemy air strength by offensive action alone is rarely attained, a well integrated defensive AAW system is imperative throughout an operation. AAW integrates all offensive and defensive actions against enemy aircraft, surface-to-air weapons, and theater missiles into a singular, indivisible set of operations. AAW, along with assault support, offensive air support, air reconnaissance, electronic warfare, and control of aircraft and missiles, is just one of the six functions of Marine aviation.

AAW serves two purposes: force protection and air superiority. Force protection aims to take those actions necessary to guard friendly forces from attack or disruption by enemy forces. Air superiority deals with the degree of dominance of one force over another, in the air battle, which permits the conduct of operations by the former and its related land, sea, and air forces at a given time and place, without prohibitive interference by the opposing force. Force protection and air superiority are complementary goals of anti-air warfare.

The Marine air-ground task force (MAGTF) conducts two types of AAW operations: offensive anti-air warfare (OAAW) and air defense. OAAW are those operations conducted against enemy air assets and air defense systems before they can be launched or assume an attacking role. OAAW operations in, or near the objective area, consist mainly of air attacks to destroy or neutralize hostile aircraft, airfields, radars, air defense systems, and supporting areas. To destroy or neutralize the enemy's air and missile threat, OAAW operations target enemy air capabilities and infrastructure, which include not only the weapons, but also launch platforms, airfields, air defense systems, command and control nodes, and support facilities. As OAAW takes the fight to the enemy, it also takes the initiative to gain air superiority while simultaneously providing robust force protection.

Air defense operations include all defensive measures designed to destroy attacking enemy aircraft or missiles in the earth's envelope of atmosphere, or to nullify or reduce the effectiveness of such attack. Air defense consists of active and passive measures for protecting our forces against attack from enemy aircraft and missiles. Active air defense is direct defensive action taken to destroy, nullify, or reduce the effectiveness of hostile air and missile

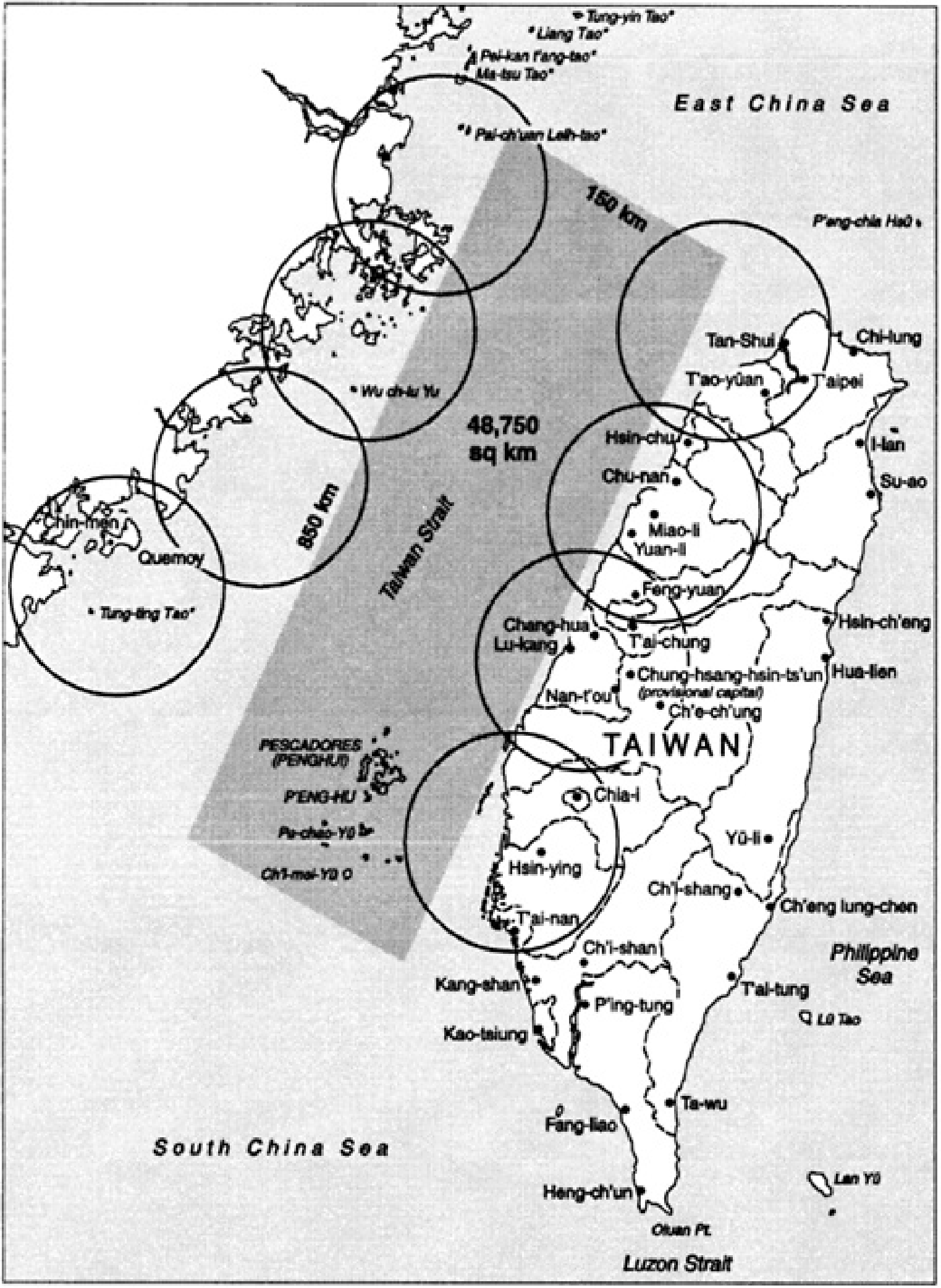
East China Sea
Tung-yin Tao
Liang Tao
Pei-kan Fang-tao
Ma-tsu Tao
Pai-ch'uan Leih-tao
150 km
P'eng-chia Hsü
Tan-Shui
Chi-lung
T'ao-yüan
T'aipei
Wu chi-lu Yu
48,750
sq km
Hsin-chu
I-lan
Chu-nan
Su-ao
850 km
Taiwan Strait
Chin-men
Quemoy
Miao-li
Yuan-li
Tung-ting Tao
Feng-yuan
Chang-hua
Lu-kang
T'ai-chung
Hsin-ch'eng
Chung-hsang-hsin-ts'un
(provisional capital)
Hua-lien
Nan-t'ou
Ch'e-ch'ung
TAIWAN
PESCADORES
(PENGHU)
P'ENG-HU
Chia-I
Pa-chiao-Yü
Ch'i-mei-Yü
Yü-li
Hsin-ying
Ch'i-shang
Ch'eng lung-chen
T'ai-nan
Philippine
Sea
Ch'i-shan
Kang-shan
T'ai-tung
P'ing-tung
Lü Tao
Kao-taiung
Ta-wu
Fang-liao
South China Sea
Lan Yü
Heng-ch'un
Oluan Pt.
Luzon Strait

Figure 6.2: Airspace over the Taiwan Strait

threats against friendly forces and assets. It includes the use of aircraft, air defense weapons, electronic warfare, and other available weapons.

Controlling the airspace over the Taiwan Strait

Ultimately, the goal for both Taiwan and China is to control the airspace over the Taiwan Strait. For China to conduct an amphibious or airborne landing in Taiwan, the burden for establishing air control is much greater for China than it is for Taiwan or the US.[41] To effect and support a landing would, arguably, require at least PLA air superiority, whereas Taiwan and the US do not necessarily need to establish air superiority in order to contest or oppose a Chinese landing. As long as Taiwan and the US can contest the airspace and keep the Chinese from gaining air superiority, they could probably also oppose a landing, or even defeat it.

Defining the airspace

The Taiwan Strait is about 220 km at its widest point and 130 km at its narrowest.[42] For the purposes of this chapter, the airspace over the Taiwan Strait is defined as a 150 by 325 km rectangle, covering a total of 48,750 square kilometers (Figure 6.2).[43]

The altitude within the rectangle ranges from sea level to a nominal 20,000 meters, thus increasing the total size of the rectangle to 975,000 cubic kilometers.

This airspace and its surrounding areas are divided into weapon engagement zones (WEZ), which consist of fighter engagement zones (FEZ), missile engagement zones (MEZ), and joint engagement zones (JEZ). (See Appendix B for definitions of these and other key airspace control terms.)

Forces involved

Given that the PLAAF will be attacking Taiwan's airfields, command and control facilities, and air defense sites, US forces will presumably be attacking mainland sites, while the TAF is conducting defensive air operations. How therefore, would the participants control the actual airspace over the Strait? First, it is important to look at each of the types of forces— air, ground, and naval; generic types of weapon systems involved—fighters, SAMs, and AAA; and the level of support provided by ground and airborne radar systems.

On the PLA side, the most important component will be PLAAF and Naval Aviation fighters backed up by their SAM, AAA, and radar troops. In addition to their own SAMs and AAAs, any PLAN ships in the Strait will also have the Navy's coastal defense branch's AAA assets. China currently has only a few Y-8 airborne early warning (AEW) sytems, which are assigned to Naval Aviation.[44] However, the PLAAF is in the process of acquiring several Russian A-50/Mainstay airborne warning and control systems (AWACS).[45]

On the Taiwan side, the Taiwan military has its fighters backed up by SAMs and AAA. Taiwan's Navy also has SAMs and AAA on its ships and its E-2T Airborne Early Warning and Electronic Warfare aircraft. The USAF and USN will also employ their fighters supported by AWACS and AEW aircraft.

Airspace sectoring

Both sides want to control the airspace inside the notional rectangle set out above. Basically, if one side has aircraft in the rectangle, the other side would most likely attempt to first use its SAMs to clear them out. Whereas one side would consider the space as its FEZ, the other could, depending on their SAM capabilities, consider it as a FEZ or MEZ. For example, the PLAAF's SA-10 (S-300) SAMs can reach out as far as 90 km and can cover altitudes down to 25 m near home, and as high as 30,000 m at its maximum distance.[46] The PLAAF also has CSA-1 SAMs deployed opposite Taiwan, but their range is only about one half of the SA-10 and they are unable to hit aircraft until they are within a few miles of the coast.[47] In addition, in 2001 the PLAAF apparently tested some Russian-built SA-20s (S-400) SAMs, which have a maximum range of about 400 km, and if deployed along the coast, could cover most of the Strait.[48]

As noted above, however, the initial goal for each side is to conduct SEAD missions to take out, or blind, the other side's SAMs and radar systems and make them either permanently or at least temporarily inoperable. The next step is to launch fighters to employ their BVR AAMs in the FEZ. According to one USN pilot,

> it stands to reason that rules of engagement (ROE) for BVR shots will always be more demanding than close-in visual shots. Because of the high risk of confusion and friendly fire, BVR ROE requirements could be even higher in a Taiwan scenario, or BVR shots may not be permitted in some circumstances.[49]

The final step is close-in air-to-air combat. Assuming the PLAAF has its AWACS by then, the air-to-air engagements would be supported by the AWACS and AEW from both sides. The side that eventually controls the airspace, whether temporarily or permanently, would then have to maintain a continuous 24-hour presence by flying CAPs inside the box.[50]

Each side is facing certain challenges for controlling the WEZ. The

PLAAF must coordinate between its aviation and SAM branches inside the WEZ. As aircraft fly over the coast and through the MEZ, the Air Force will also have to coordinate with the PLAN's coastal defense forces and ships, as well as the ground forces' and PLAAF's AAA.

According to a US Department of Defense analyst, the primary means of coordination between PLAAF aircraft and ground-based air defense units today is airspace and time differentiation.[51] The PLA's air defense system relies heavily on airspace control measures and procedural control (essentially flying air corridors, adhering to strict altitudes and in-area time limits, or speed controls). Although most, if not all, of the PLAAF's aircraft have some type of an identification friend or foe (IFF) system, the best method for coordinating aircraft movement with the ground forces, or a ground controller, is through the use of a secure and reliable electronic identification (EID), which utilizes a reliable IFF or other means. The problem for the PLAAF is not so much coordinating with PLAAF SAMs, but rather with the PLAN and ground force air defense systems along the coast.

The Taiwan side has its own challenges. As noted above, the TAF's doctrine calls for SAMs to engage incoming aircraft prior to the employment of friendly aircraft. The Air Force must also coordinate airspace control with any naval vessels operating in the Strait. One of the biggest challenges, however, would be the coordination of Taiwan's aircraft, ships and air defense forces with any USAF and USN aircraft in the Strait.

Besides US military strikes against PLA airfields, ports, and air defense sites, the US would most likely coordinate with Taiwan's military by dividing the airspace into multiple sectors.[52] Taiwan's aircraft could operate in one sector, while USAF and USN aircraft could operate together or in different sectors. American AWACS and AEW aircraft and tankers would operate over, or east of, Taiwan to support the fighters. Depending on the situation, another possible US participant in an air battle may be US Navy AEGIS ships' SAMs, particularly if the AEGIS ships were placed far forward for ballistic missile

observation/interception. The US would also most likely assign personnel to Taiwan's air defense command post to coordinate operations. All of the forces involved would use the same concepts of IFF, and coordination through time, distance, and altitude assigned to the aircraft, as they transit the MEZ.

Air tactics

It goes without saying that any air-to-air combat engagement between the PLAAF and Taiwan or American pilots would depend on several key factors, including aircraft, missile, and gun capabilities, pilot proficiency, and tactics employed. History is replete with examples where one side or the other excelled after receiving a new type of aircraft that could turn better, fly higher or lower, or shoot further.[53]

In the Taiwan Strait situation, one of the biggest differences between the two sides is that China's pilots rely heavily on strict ground-controlled intercept (GCI) throughout the engagement, while American and Taiwan pilots do not. Furthermore, China currently does not have an airborne command post to control its fighters. Thus, they must rely on ground-based radars, which are susceptible to jamming or destruction.

Limiting factors

All participants will face certain limitations in their air campaign. Its analysis of the Gulf War and Kosovo conflict suggests that the PLAAF faces a major dilemma in any campaign involving the United States.

Given American intelligence collection capabilities, including satellite and airborne surveillance, throughout the PLAAF's writings, there are references to concerns about secrecy and fears of early detection of its plans for offensive operations. PLA writers have stated, "Major military operations cannot escape from such an intelligence net," therefore engagement in frequent movements and a certain amount of dispersal is a necessary and effective concealment method.[54] "Forces should integrate the use of feints, camouflage, screening, and dispersion to conceal our command, control, communications, and intelligence systems and to deceive and jam enemy information reconnaissance."[55] As a result the PLAAF has invested time and money into passive camouflage, concealment, and deception (CC&D) measures. They include using aircraft cave shelters, hardened aircraft shelters, small hangars, single aircraft shelters, building false targets, and "concealing the real and making the false obvious."[56]

During past conflicts, the PLAAF has deployed several hundred aircraft to airfields near the border. While this was necessitated as a show of force, it was also to make up for the inability of its aircraft and pilots to conduct sustained, high-intensity sortie generation. Today, these aircraft, along with PLAAF and PLAN fixed radar, SAM, and AAA sites, are susceptible to being destroyed by cruise missiles launched from outside Chinese territory. As a result, PLAAF and Naval Aviation aircraft, SAMs, AAA, and radar units routinely practice rapid mobility exercises, including aircraft taking off from highway landing strips and alternate airfields. These exercises, however, also reduce the operational capability of these units during the time they are moving. For example, the 2003 Department of Defense (DOD) report on China's military states, "the PLAAF does not appear focused on large-force employment or sustaining high sortie rates for extended periods of operation."[57]

Any look at future PLAAF campaigns must also include a discussion of ROEs (rules of engagement). Prior to initiating the Korean War, the 1958 Taiwan Strait Crisis, and the 1979 border conflict campaigns, the PLAAF received strict ROEs from the Central Military Commission (CMC).[58] During the Korean War, PLAAF aircraft were not allowed to strike below the 38th parallel for fear of retaliatory strikes against airfields north of the Yalu River. In 1958, the CMC established the following three rules of engagement for the air force:

- The air force could not enter the high seas to conduct operations.
- If the Nationalist Air Force did not bomb the mainland, the PLAAF could not bomb Quemoy and Matsu.
- The PLAAF was not allowed to attack the US military, but could defend against any US aircraft entering Chinese territory.

In the 1979 conflict with Vietnam, Beijing did not allow the PLAAF to conduct air support missions over the border, stating that its aircraft were providing a deterrent, but in reality the CMC was actually concerned about escalating a conflict which it planned to end after forty-five days.

Undoubtedly, the CMC will establish ROEs for the PLAAF, but the contents will not be finalized until just prior to any future campaign.

The TAF has several limitations, not the least of which is a shortage of pilots for its newest aircraft.[59] In addition, according to the 2003 DOD report on China's military, "TAF personnel—especially its fighter pilot corps—reportedly are overworked. Pilot training continues to focus on the defensive counter-air mission, while dissimilar air combat training, close air support, and anti-surface warfare missions rarely are practiced."[60]

Furthermore, it is a common assumption that the TAF's airfields are the prime targets for the PLA's initial and follow up wave of SRBMs and cruise missiles. Much will depend on how much damage they do, and how fast the damage can be repaired to allow for the fighters to take off and land.

United States

The US military's greatest limitations are the "tyranny of distance" across the Pacific, which affects the time it will take to deploy and sustain forces to the area, and questions of whether US forces be allowed to operate directly from Japanese ports and airfields. This is particularly important for USAF fighters and AWACS, even though they can operate around Taiwan with refueling. It is not as much a problem for aircraft operating off USN carriers, but there must be enough carriers in the area to sustain 24-hour operations. According to General William Begert, Commander of US Air Forces in the Pacific (PACAF), the USAF currently faces various equipment availability and readiness problems for its fighters and tankers, but these should be alleviated as newer aircraft enter the PACAF inventory and current out-of-area operations are scaled down.[61]

As part of its challenge, the US must also establish appropriate ROEs that protect Taiwan and US forces, but do not cause an escalation of the conflict.

Conclusions

Over the past several years, the single question asked at every conference dealing with the cross-Strait military balance is, "Which side's air force —the PLAAF or TAF—is better?" The simple answer is that it is no longer a matter of which pilots or aircraft are better in an air engagement. Pilots first have to be able to avoid being killed on the ground—either in their barracks or on the flight line—from ballistic and cruise missiles hitting their airfields. Once airborne, they have to avoid being hit by SAMs over the Strait. Only then might they have the chance of meeting the other side in air-to-air combat to test their air combat skills, assuming they are not hit by an air-to-air missile fired from beyond visual range.

As noted at the beginning of this chapter, given the complexity of these tasks and the countries involved, it is virtually impossible today to predict which side will be able to control the airspace over the Taiwan Strait in a future conflict.

The immediate conclusion drawn from this chapter concerning an air campaign over the Taiwan Strait, is that there will be a tremendous amount of death and destruction in China and Taiwan on the ground and in the air. Targets will most likely include both military and civilian facilities and personnel.

Second, the last air combat experience for the PLAAF or TAF was 1958. Only the US has had any combat experience in the last decade. Having doctrine is one thing, but implementing that doctrine outside of a limited training scenario in a real war is yet another matter.

Third, without the PLAAF seizing and maintaining air superiority over the Strait, any chance of the PLA successfully putting "boots on the ground" is limited.

Fourth, any air campaign will entail 24-hour sustained operations, which neither Taiwan nor China appear prepared to undertake successfully at this time. The US, however, will take advantage of night-time to conduct its operations across the Strait.

Fifth, even though the US is the only participant that has any experience in sustained operations, its airpower will have more

limitations on basing and distance than it did in either the Iraq war or the Kosovo conflict. Although US airpower dominated in the three campaigns discussed in the chapter, China poses a significant challenge in some areas. Unlike the Iraqi and Serb air forces, the PLAAF and Naval Aviation would present a concerted air-to-air threat to US aircraft. Chinese forces, like the Serbian forces, would most likely employ sophisticated CC&D and dispersal measures to avoid damage from American missiles. Like the Iraqi Scuds, Chinese SRBMs would most likely be difficult to find and destroy once they have dispersed from their garrisons. Furthermore, as in Operation Allied Force, there will most likely not be a threat of American ground forces being involved on mainland China's soil.

Sixth, each participant will most likely establish specific ROEs for the conflict. One probable goal for each participant is to avoid escalating the damage beyond certain territorial boundaries, and not to include the threat of nuclear weapons. Specifically, would the Taiwan Strait act as a "MiG Alley" between Chinese and American forces, whereby air-to-air and at-sea combat would be acceptable, but strikes on mainland China targets and US bases in Japan would not be acceptable? Would China accept strikes within certain territorial boundaries, such as Fujian Province or certain targets within the Nanjing Military Region, without retaliating against Kadena Airbase? Would a Chinese ballistic missile attack against Kadena or a US aircraft carrier result in a much larger air campaign against Chinese targets further inside the mainland? Each side needs to spend time trying to understand what the other side's ROEs might be and adjust their war plans appropriately.

Finally, there is no doubt that the PLAAF would salute smartly and try to carry out its operations plan if ordered to do so. The question is whether the leaders in Beijing, and Taiwan, understand what an air campaign really entails along with the possibility and consequences of its failure.

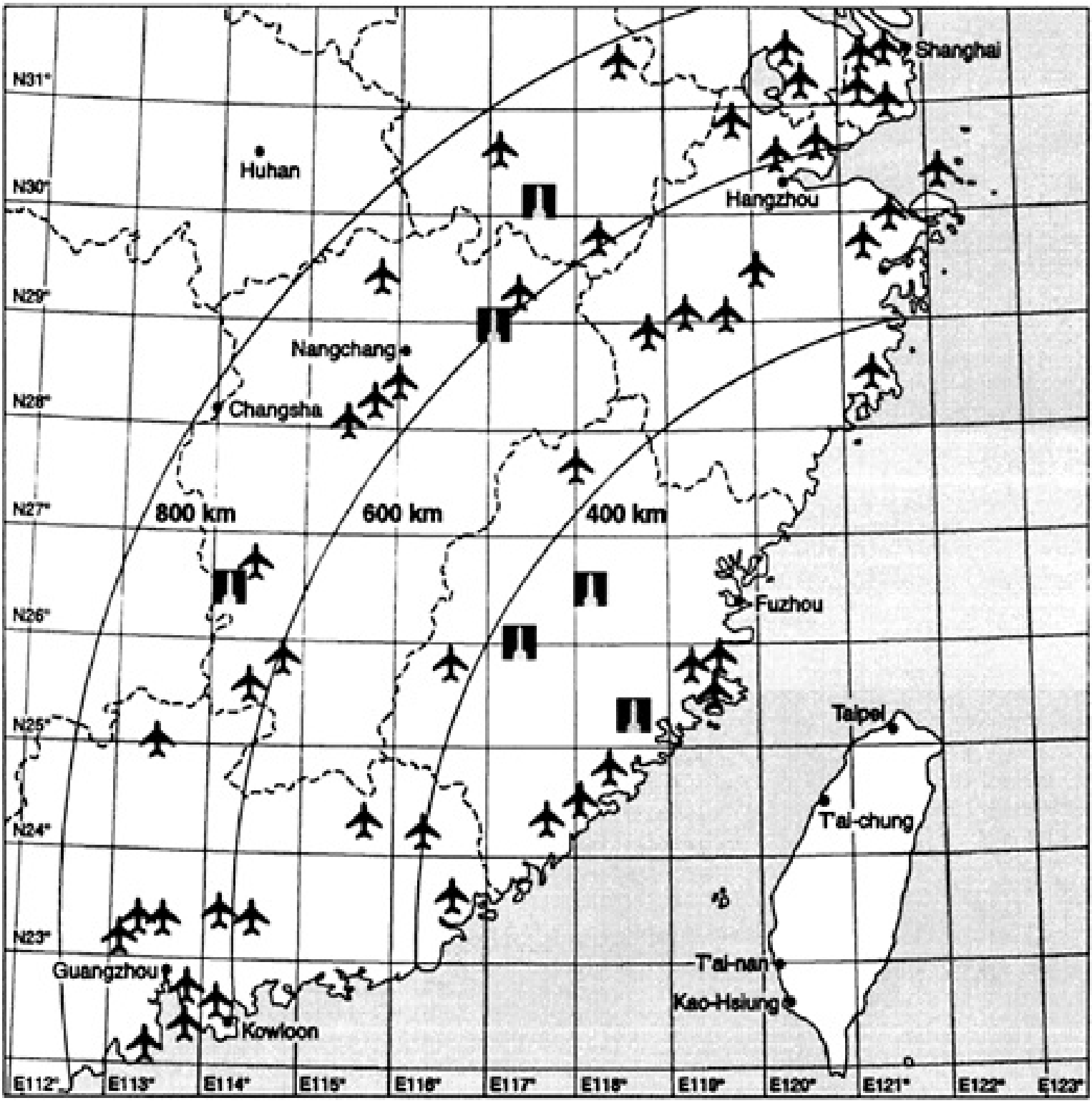

Figure 6.3: Chinese airfields within 800 km of Taiwan
Source: Federation of American Scientists

Appendix A: air orders-of-battle

One of the difficulties in discussing an air conflict over the Taiwan Strait is determining how many aircraft will be involved. This is not a big problem for Taiwan, because it will employ all of its existing aircraft. It is an issue, however, for China and the United States. Does one count the total number of aircraft in the inventory or estimate how many of them will actually be involved? This appendix provides information available about the Taiwan Air Force, PLAAF and Naval Aviation, and aircraft assigned to the US Pacific Command (PACOM).[62]

Taiwan Air Force

According to the International Institute for Strategic Studies' (IISS) *Military Balance* for 2002, Taiwan's Air Force has 479 combat aircraft organized into three squadrons with a total of fifty-seven Mirage 2000–5s, six squadrons with a total of ninety F-5E/Fs, six squadrons with a total of 128 Indigenous Defensive Fighters (IDF), seven squadrons with a total of 146 F-16A/Bs, and one squadron with twenty-two AT-3s. The TAF also has four E-2T AEW aircraft.[63]

PLA Air Force and naval aviation

Unlike public information available about the size and disposition of the US Air Force, no detailed open source information is available about the PLAAF aviation and air defense order of battle. Since 1997, the US Congress has required the DOD to provide a report on the PLA. Unfortunately, the format for the PLAAF's order of battle has not been consistent; the reports do, however, provide a general overview of the numbers and types of aircraft. Various media organizations, such as *Jane's,* have also provided some order of battle information. Although the reports provide air order-of-battle information, they do not provide the number of divisions, brigades, regiments, and organizational structure for the air defense forces—SAM, AAA, and radar troops.

- According to the 1999 DOD report, "The PLAAF's combat aircraft are organized into 30 air divisions, plus about 150 transport aircraft organized in 2 air divisions. The PLAAF had a high of 50 total air divisions from 1971 to the late 1980s."[64]
- A 14 June 2000 *Jane's Defence Weekly* report states that the PLAAF consists of thirty-three divisions, including twenty-seven fighter, four bomber, and two transport divisions.[65]
- The 2000 DOD report states, "The PLAAF and Naval Aviation combined number over 400,000 personnel, 4,300 tactical fighters, 1,000 bomber and close air support aircraft, and 650 transport aircraft.[66]
- The 2003 DOD report states, "Although the PLAAF and Naval Aviation have approximately 3,200 aircraft, only about 150 are considered modern, 4th generation fighters. By the end of the decade, China is expected to have a more robust fleet of 4th generation fighters augmented by modern missiles, electronic countermeasures, and several AWACS-type aircraft."[67]

The *Republic of China 1998 National Defense Report* states,[68] "At present, 1,300 aircraft are stationed at airbases within 500 nm [830 km] of Taiwan, of which 600 have a radius of operation over Taiwan proper."

The *2000 National Defense Report* states, "Already deployed within 600 nm [1000 km] of the Taiwan proper are about 1,000 [PLAAF and Naval Aviation] planes of various types which could undertake operational missions at any moment."[69] In December 2000, Taiwan's ministry of defense stated, "There were 14 military and civil airfields within 250 nm [415 km] of Taiwan. They currently have 121 fighters, but could accommodate 1,279 fighters, not including Su-27s, on short notice."[70]

Looking at the map, the area extending out to 1,000 km is described in Taiwan's reports as the start of the Shandong Peninsula. It arcs halfway through Hubei and Hunan Provinces, then goes down to the Leizhou Peninsula, covering almost all of the Nanjing MR and about half of the Guangzhou MR. According to the Federation of American Scientists map (Figure 6.3 below), there are fifty airfields within 800 km of Taiwan, including thirty-six military airbases—not all of which are permanently occupied.[71]

According to Taiwan military officials, since the mid-1990s the PLAAF has been deploying small units from designated rapid-reaction units from throughout the PLAAF, into some of the bases directly opposite Taiwan for six-month familiarization deployments.[72]

Pacific command

According to the Pacific Command's website, PACOM is a unified command which includes approximately 300,000 military personnel from the Army, Navy, Air Force, and Marine Corps (about 20 percent of all active duty US military forces). These forces are in three categories: Forward Deployed (about 100,000), Forward Based and CONUS Based, which comprise the remainder.[73]

The US Pacific Fleet (PACFLT), headquartered near Pearl Harbor, Hawaii, is the world's largest naval command. Forces in PACFLT include approximately 190 ships, about 1,400 Navy and Marine Corps aircraft, more than 213,000 Sailors, Marines, and civilians, and thirty-five shore installations.

PACAF is composed of approximately 45,000 military and civilian personnel. There are four numbered air forces: the Fifth, headquartered at Yokota Air Base, near Tokyo; the Seventh, headquartered at Osan Air Base, south of Seoul; the Eleventh, headquartered at Elmendorf Air Force Base, near Anchorage; and the Thirteenth. headquartered at Andersen Air Force Base, Guam. PACAF forces include four fighter wings (one in Alaska, two in Korea and one in Japan), two multi-mission wings (one in Japan, one in Alaska), two air base wings (one in Hawaii, one in Guam), and one airlift wing (in Japan). PACAF has approximately 400 aircraft, including the multi-role F-15E and F-16; F-15C/D air superiority fighters; OA-10 forward air control aircraft; HH-60G and UH-1 helicopters; C-21, C-9, C-12 and C-130 airlifters; and E-3 Airborne Warning and Control System aircraft.

Appendix B: airspace control terminology

To understand how any of the participants approach controlling the airspace over the Taiwan Strait, it is first important to know some of the key terms—not all of which were used in this chapter. The source of information for these terms is US Air Force, Navy, and Marine Corps doctrine, glossaries, and training documents.[74]

Anti-air Warfare (AAW) operations are conducted against hostile aircraft and/or missiles, their supporting forces, and operating bases for the purpose of rendering them ineffective. AAW is divided into offensive and defensive AAW.

Offensive AAW (OAAW) operations include those actions taken to destroy or reduce enemy air and missile threat before enemy assets take-off or assume attacking roles. Offensive AAW operations include air attacks that destroy or neutralize (see 'air supremacy' below) hostile aircraft, airfields, radar, air defense systems and supporting areas.

Defensive AAW or air defense (active and passive) operations include all defensive measures designed to destroy attacking enemy aircraft or missiles in the earth's atmosphere, or to nullify or reduce the effectiveness of such attack. Active air defense is direct, defensive action to destroy or reduce the effectiveness of enemy in-flight attacks. Active air defense is achieved through surveillance, command and control, and weapons employment. Passive air defense actions reduce the effects of enemy air attack.

Combat Air Patrol (CAP) consist of flights of aircraft under radar and radio control by air defense controllers. Their purpose is to intercept and destroy enemy air attackers.

Air superiority is defined as that degree of dominance in the air battle of one force over another, which permits the conduct of operations by the former and its related land, sea, and air forces at a given time and place without prohibitive interference by the opposing force. Air superiority is the primary purpose of AAW. Air superiority allows the commander to see and shape the battlefield by choosing the time, place and type of actions needed to accomplish the mission.

Air supremacy is defined as that degree of air superiority wherein the opposing air force is incapable of effective interference.

Air dominance is not defined in US doctrine documents, but it refers to the highest airpower state when the requisite effectiveness of airpower is achieved, that 100 percent of friendly bombs hit enemy targets while no enemy bombs hit friendly targets, that wars are won quickly, and that fewer friendly casualties are suffered.[75]

Neutralization missions are designed to render areas, weapons, or enemy forces ineffective for a specified time.

Destruction missions destroy enemy forces, equipment, supplies and installations. A target is *destroyed* when it is so damaged that it cannot function as intended, nor be restored to usable condition.

Airspace control in the combat zone is a process used to increase combat effectiveness by promoting the safe, efficient, and flexible use of airspace. Airspace control is provided in order to prevent fratricide, enhance air defense operations, and permit greater flexibility of operations.

Weapon Engagement Zone (WEZ) consists of defined dimensions of airspace within which the responsibility for engagement normally rests with a particular weapon system. These *include fighter engagement zones* (FEZs), various types of *missile engagement zones* (MEZs), and *joint engagement zones* (JEZs).

Fighter Engagement Zone (FEZ) is that airspace of defined dimensions within which the responsibility for engagement normally rests with fighter aircraft. FEZs are an alternative type of engagement operation if the detailed control aspects of joint engagement operations cannot be met. The FEZ is an air defense control measure. From an air defense perspective, the FEZ is normally used when fighter aircraft have the clear operational advantage over surface-based systems. These advantages could include range, density of fire, rules-of-engagement (ROE), or coordination requirements. From an airspace control perspective, FEZs provide airspace users with engagement zone locations for fighter aircraft mission planning. Coordination and flexibility within the combat airspace

control system may be a limiting factor. SAM systems will not be allowed to fire weapons into a FEZ unless targets are positively identified as hostile, identified and/or assigned by a higher authority or firing in self-defense. All fires must be in accordance with the ROE. The area air defense commander establishes the FEZ.

Missile Engagement Zone (MEZ) is an airspace of defined dimensions within which the responsibility for engagement normally rests with missiles. In joint doctrine, MEZs are divided into high-altitude and low-altitude MEZs. The principal differences between the two are the type of missile system being employed and the altitude limits of the MEZ. The area air defense commander designates the MEZ.

Short-range Air Defense Engagement Zone (SHORADEZ) is that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with short-range air defense weapons.

Joint Engagement Zone (JEZ) is that airspace of defined dimensions within which multiple air defense systems (SAMs and aircraft) are simultaneously employed to engage air threats.

Notes

1 The authors would like to thank Richard Brody, Dean Cheng, Bud Cole, David Finkelstein, Richard Fisher, Paul Godwin, Mark Huber, Ralph Jodice, Roy Kelley, Maryanne Kivlehan-Wise, Mike Lostumbo, J.R.Mathis, Michael McDevitt, Thomas McInerney, and Allen Whiting for their comments on early drafts. The opinions expressed are those of the authors.

2 Some TAF pilots have received basic conversion training on the F-16 at Luke Air Force Base in the US. See http://www.f-16.net/reference/users/fl6_tw.html

3 http://www.csis.org/kosovo/KosovoRecentAircamp4699.PDF

4 Richard Alan Schwartz, *Encylopedia of the Persian Gulf War* (North Carolina: Jefferson: McFarland & Company, 1998), 9, 20. Altogether, twelve kinds of target were identified.

5 Ibid., 120.

6 Walter J.Boyne, *Operation Iraqi Freedom: What Went Right, What Went Wrong, and Why* (New York: Forge, 2003), 84.

7 Alastair Finlan, *The Gulf War 1991* (Wellingborough: Osprey Publishing, 2003), 37.

8 "Operation Desert Storm: Evaluation of the Air Campaign," GAO/NSIAD, June 1997, 97–134. See http://www.cdi.org/iraq/gulf-war-I.cfm. This included 210,004 unguided bombs, 9,342 guided "bombs," 2,039 anti-radiation missiles, 5,448 air-to-surface missiles, and 332 cruise missiles.

9 Benjamin S.Lambeth, "Control of the Air: The Future of Air Dominance and Offensive Strike." This essay was prepared for a conference on "Control of the Air: The Future of Air Dominance and Offensive Strike," sponsored by the Australian Defense Studies Center, University of New South Wales, and Australian Defense Headquarters, Canberra ACT, 15–16 November 1999. It incorporates highlights of the author's book *The Transformation of American Air Power* (Ithaca NY: Cornell University Press, 2000). According to Alastair Finlan, those 10 percent accounted for more than 75 percent of the significant damage achieved. In stark terms, a fighter-bomber of the 1990s armed with just two smart bombs possessed such a level of accuracy that it would have taken more than 100 B-17 bombers to achieve the same results in World War II. See Finlan, *The Gulf War 1991,* 30.

10 http://www.cdiss.org/cmgulf.htm. Also see Schwartz, *Encyclopedia,* 110, and http://www.cdiss.org/cmgulf.htm. Of the TLAMs, the USN launched 276 from ships and twelve from submarines in the Persian Gulf. In addition, two USN battleships, the Missouri and Wisconsin, fired a total of 1,083 16-inch shells and over 1,000 tons of shells against land targets.

11 Finlan, *The Gulf War 1991,* 35, and Tom Clancy, *Every Man a Tiger The Gulf War Air Campaign* (New York: Berkeley Brothers, 1999), 334. For example, the first night of operations, seven B-52Gs flew from Louisiana and launched thirty-five AGM-86C 1,000-pound warhead air-launched cruise missiles (ALCMs) fifteen hours later before returning home on the same flight. Of the thirty-five missiles, thirty hit their targets. The total flight distance was 14,000 miles (22,500 km), which lasted about thirty-five hours. Other B-52Gs from bases like Diego Garcia in the Indian Ocean also launched conventional bomb attacks on key targets.

12 Clancy, Ibid., 343.

13 Unless noted, the information on Operation Allied Force comes from Lambeth, "Control of the Air."

14 http://www.fas.org/man/dod-101/ops/docs99/DOD21Apr.htm
15 Mark Hewish, "Waging War with Weather," *International Defense Review,* vol. 32, no. 12, 1 December 1999.
16 Nick Cook, "War of Extremes," *Jane's Defence Weekly,* vol. 32, no. 1, 7 July 1999.
17 Lambeth, "Control of the Air."
18 http://homepages.uc.edu/thro/Kosovo/Allied-Force-Combat.html
19 See http://www.danshistory.com/operations.shtml#af
20 See http://www.time.com/time/teach/arcriive/990419/text2.html
21 Cook, "War of Extremes."
22 "Operation Iraqi Freedom: By the Numbers," a report issued on 30 April 2003 by USAF Lt Gen. T.Michael Moseley, USCENTAF Combined Forces Air Component Commander. http://www.globalsecurity.org/military/library/report/2003/uscentaf_oif_report_30apr2003.pdf
23 Ibid.
24 Boyne, *Operation Iraqi Freedom,* 163.
25 Information from the National Defense Industrial Association. See http://www.ndia.org/Content/NavigationMenu/Resources1/Presidents_Corner2/August_2003.h
26 Boyne, *Operation Iraqi Freedom,* 163.
27 The authors gave careful consideration to specifying how many days after the start of the conflict the US military would become involved. Granted this is an important factor in Beijing's and Taipei's calculations on the success or failure of any campaign, but the time it takes the US to become involved depends heavily on the amount of warning time and the decision time in Washington. Therefore, for purposes of this chapter, the timeframe was left ambiguous.
28 Dangdai Zhongguo Kongjun *(China Today: Air Force),* (Beijing: China Social Sciences Press, 1989), 350–1. Of note, the PLAAF consistently points out it has shot down a total of 1,474, and damaged 2,344 aircraft, since 1949. What it neglects to mention is the breakdown for air-to-air combat and those aircraft downed or damaged by AAA and SAMs. According to the PLAAF's published history of the Korean War, the PLAAF shot down 330 aircraft and damaged another ninety-five in air-to-air combat, compared to having only 231 aircraft shot down and 151 damaged—a ratio of 1.1:1 in favor of the PLAAF.
29 USAF Historical Division, *Air Operations in the Taiwan Crises of 1958* (Washington DC: United States Air Force, November 1962), 39.
30 No exact figures are available from the media on the number of daily, weekly, monthly, or annual flights the PLAAF and Naval Aviation have flown over the Taiwan Strait since the late 1990s.
31 Wang Houqing and Zhang Xingye (ed.) *Zhanyi Xue (Science of Campaigns),* (Beijing: National Defense University Publishers, May 2000), ch. 13, 350–1.
32 Ibid., 350–1.
33 Ibid., 474–84.
34 Ibid., 356–7.
35 Information in this section on Taiwan's military comes from York W.Chen, "The Shifting Balance of Air Superiority Across the Taiwan Strait and Its Implications on Taiwan's Defense Planning," *Taiwan Defense Affairs,* vol. 3, no. 2, winter 2002–3, 78–80.
36 "Chinese Planes Can Get Here Faster than Previously Thought," *Taipei Times,* 8 January 2004. The article stated that an Air Force officer from the 427th wing in Taichung made the statement to refute the "misbelief" that it would take the PLAAF seventeen minutes to cross

the Strait. The distance from the Taichung base, which is equipped with the Indigenous Defensive Fighter (IDF), to the two closest mainland airfields is 230 km and 262 km.

37 Air Force Doctrine Document 2–1 (Air Warfare), 22 January 2000, 8–9.

38 Ibid., 32–3.

39 See http://www.ewtglant.navy.mil/n5/N54/N54%20CD/AWI%20Downloads/Outlines/18stdo.doc

40 Information for the remainder of this section on USN/USMC doctrine comes from http://www.tpub.com/content/USMC/mcwp322/css/mcwp322_10.htm

41 Interview with USN pilot.

42 http://www.gio.gov.tw/taiwan-website/5-gp/q&a/page_01.htm. The length from north to south of the Taiwan proper is 394km and its width from east to west is 20–150km.

43 No authoritative statement about the actual size of the airspace was found. This does not discount the importance of the airspace north of the island or along the southwest coast, but the main battles will take place within the rectangle.

44 These aircraft are equipped with British-made Skymaster radar systems purchased in 1999. See http://www.sinodefence.com/airforce/aircraft/special/y8aew.asp

45 Secretary of Defense, "Annual Report on the Military Power of the People's Republic of China," FY04 Report to Congress on PRC Military Power: Pursuant to the FY2000 National Defense Authorization Act, 28 July 2004, 35.

46 See Chinese Defense Today at http://www.sinodefence.com/airforce/airdefence/s300.asp

47 Bill Gertz, "Chinese Bases Near Taiwan Sport Defense Missiles," *Washington Times,* 28 March 2000, 3.

48 Bill Gertz, "Inside the Ring," *Washington Times,* 28 September 2001. http://www.gertzfile.com/gertzfile/ring092801.html

49 Interview, 20 December 2003.

50 Interview with USAF pilot, 20 December 2003.

51 Interview with Department of Defense analyst, 20 December 2003.

52 Interview with Lieutenant General Thomas McInerney (USAF Retd). Gen McInerney notes that some US forces would be better served if they could operate directly from Taiwan.

53 See Norman Franks, *Aircraft versus Aircraft: The Illustrated Story of Fighter Pilot Combat from 1914 to the Present Day* (London: Grub Street, 1998), 194.

54 Huang Xing and Zuo Quandian, "Holding the Initiative in Our Hands in Conducting Operations, Giving Full Play to Our Own Advantages to Defeat Our Enemy—A Study of the Core Idea of the Operational Doctrine of the People's Liberation Army", *Zhongguo Junshi Kexue (China Military Science)* in Chinese, 20 November 1996, no. 4, 49–56 (FTS 19970619001633, 19 June 1997). Senior Colonel Huang Xing and Senior Colonel Zuo Quandian are research fellows of the Academy of Military Science. Liu Xuejun and Zhang Changliu, "Study of Measures To Counter Unmanned Aerial Vehicles," *Guoji Hangkong (Flight International),* 1 March 1996 (FTS 19960301000017, 1 March 1996).

55 Xu Xiangdong, Gu Gang and Yang Jun, "Mobilize Local Information Warfare Resources to Participate in Anti-Air Raid Combat," *Beijing Guofang,* 15 December 2000, 7–8 (CPP 20010207000136, 7 February 2001).

56 Chengdu Military Region Campaign Training Office, Jituanjun Yezhan Zhendi Fangyu Zhanyi Kongjun de Yunyong (Air Force Utilization During the Campaign to Defend Group Army Field Positions), February 1982, 52.

57 DoD Annual Report, 28 July 2003, 49.

58 Dangdai Zhongguo Kongjun, 1989. Lin Hu (ed.) *Kongjun Shi (History of the Air Force)* (Beijing: PLA Press, PLAAF Headquarters Education and Research Office, November 1989).
59 Brian Hsu, "Official Acknowledges Fighter Pilot Shortage," *Taipei Times,* 28 November 2000.
60 DoD Annual Report, 28 July 2003, 51.
61 Robert Walling, "USAF Widens Cooperation in the Region While Coping with Operational Needs and Aging Aircraft," *Aviation Week and Space Technology,* 26 January 2004, 47. According to General Begert, F-15C fighters and KC-135 tankers are feeling the effects of the high operational pace. F-15Cs at Kadena Airbase in Japan have not met their 79 percent readiness rates in almost four years, falling to 70 percent in 2003. The F-15Cs will likely be replaced at some point with a newer—but used—version. Those replacement aircraft should be freed up once the USAF starts fielding F/A-22s or F-35s. PACAF's relatively small, dedicated KC-135 force also is being stretched, flying 1,000 hours more than planned during 2003, and expected to exceed that total in 2004.
62 Also see Richard Fisher, "PLA Air Force Equipment Trends," in Stephen J. Flanagan and Michael E.Marti (eds) *The People's Liberation Army and China in Transition* (Washington DC: National Defense University Institute for National Strategic Studies, 2003), 139–76.
63 Information on the TAF comes from the 2002 issue of Military Balance, published by the International Institute for Strategic Studies, London. See http://reo.nii.ac.jp/journayHtmlIndicate/Contents/SUP0000003000/JOU0003000148/ISS0000
64 "The Security Situation in the Taiwan Strait," Report submitted by Secretary of Defense William Cohen to the US Senate as directed by the FY99 Appropriations Bill, 17 February 1999. Discussions with PLAAF officials indicate that this number (thirty-two divisions) is too low, but they did not specify the total number.
65 Robert Sae-Liu, "PLAAF Fixed-wing Fleet Cut in Major Restructuring," *Jane's Defence Weekly,* 14 June 2000, 41. The article says the PLAAF had forty-three divisions in 1997 when Jiang Zemin announced a force reduction. In 1998, there were thirty-nine divisions, including thirty-one fighter, five bomber, and two transport divisions. It is not sure whether the 38th Bomber Division at Laiyang, Guangzhou MRAF, is still active or not. If so, that would make thirty-four active divisions today. The article says the PLAAF has sixteen active air defense (AAA/SAM) divisions.
66 Secretary of Defense, "Report on the Current and Future Military Strategy of the People's Republic of China," Report to Congress Pursuant to the FY2000 National Defense Authorization Act, 23 June 2000, 22.
67 DoD, "Annual Report on the Military Power of the People's Republic of China," July 2003, 21–3. The report is inconsistent with its numbers. On one page it says the PLAAF has 3,200 aircraft and on another page it says the PLAAF and Naval Aviation combined have 3,200 aircraft.
68 Republic of China: 1998 *National Defense Report* (Taipei: Li Ming Cultural Enterprise Co. Ltd, 1998), 30–1.
69 Republic of China: 2000 *National Defense Report* (Taipei: Li Ming Cultural Enterprise Co. Ltd, 2000).
70 Interview with Ministry of National Defense, December 2000.
71 http://www.fas.org/nuke/guide/china/facility/airfield.htm. There are six military airfields within 400 km, eleven more between 400 and 600 km, and nineteen more between 600 and 800 km.

72 Interviews in Taiwan during January 2003.
73 http://www.pacom.mil/about/pacom.shtml.
74 See Joint Pub 1–02: Department of Defense Dictionary of Military and Associated Terms, amended 17 December 2003; the US Air Force Doctrine Document 2–1.7: Airspace Control in the Combat Zone, at http://www.epublishing.af.mil/pubfiles/af/dd/afdd2–1.7/afdd2-l.7.pdf, the US Naval Academy's Brigade Training web page at http://www.usna.edu/Training/probook/fall03/week07_air_warfare.pdf, and the USMC training publication at http://www.tpub.com/content/USMC/mcwp322/css/mcwp322_38.htm
75 Craig A.Hughes, "Achieving and Ensuring Air Dominance," Research Paper, Maxwell AFB, Alabama, April 1998, 4. http://www.fas.org/man/dod-101/sys/ac/docs/98–128.pdf

7

COMMAND OF THE SEA

Bernard D.Cole

Introduction

This chapter evaluates China's ability to first, secure "command of the sea," which is interpreted as establishing an effective blockade of Taiwan; and second, to isolate the island "from the rest of the world." To do so, one must understand what "command of the sea" truly implies. Admiral Alfred Thayer Mahan, the late-nineteenth-century US naval theorist, defined it as:

> that overbearing power on the sea which drives the enemy's flag from the sea or allows it to appear only as a fugitive; and which by controlling the great common, closes the highway by which commerce moves to and from the enemy's shores.

His British contemporary, Sir Julian S.Corbett, credited it with three primary objectives: to support diplomacy, protect or destroy commerce, and support or defeat shore operations. They both placed emphasis on the naval and commercial components of sea power. Corbett also emphasized "power projection" as a navy's most effective way to affect onshore events. He had in mind the landing of troops, but the advent of aircraft carriers, ballistic missile-carrying submarines, and cruise missile-equipped surface ships and submarines has greatly strengthened this concept.

Corbett would have been comfortable with the maritime situation of Taiwan and the People's Republic of China (PRC). As an island, the former is dependent on the sea even in this aerospace age; the latter is determined to gain political control of the island and recognizes that it must deal with the "moat" posed by Taiwan's Strait and surrounding waters. Both mainland and island must use the sea to obtain their political ends: reunification by the PRC or continued *de facto* independence by Taiwan.

What is the balance?

To address the question of whether China can secure control of the sea and cut Taiwan off from the outside world requires a comparison of the maritime situations of China and Taiwan. It necessitates a numerical comparison of the different components of the navies, a discussion of the geography in which they operate, and an examination of their capabilities and weaknesses. A recent Chinese analyst summed up the strength of the two militaries as very much in favor of China.[1]

An evaluation completed by US experts claims a Chinese advantage over Taiwan of 12 to 1 in combat aircraft and submarines, and 14 to 1 in naval aircraft; only in "major surface ships" does the balance become more equal, at 1.7 to 1.2.[2]

Counting ships, submarines, and aircraft is just one step in evaluating the naval balance. The geography of the theater frames the discussion. Taiwan lies from 90 to 105 nautical miles (nm)[3] from the Chinese mainland, a distance well within the range of modern missiles and aircraft-launched weapons. It is roughly the same as the 90 nm breadth of the English Channel crossed in the June 1944 Normandy invasion, one of the largest, most complex military operations in world history. The PLA cannot replicate this operation.

Furthermore, the Taiwan Strait is frequently subject to high winds and seas, tidal ranges up to 15 m, complex currents, and is susceptible to typhoons during most of the year. There are very few suitable landing beaches on either of the island's coasts, a situation further compounded by the presence of wide areas of mud flats.[4]

This, however, does not eliminate seaborne military action, but does provide an argument strongly against a classic amphibious assault. In any case, given the physical damage, international opprobrium, and hatred by the Taiwan people almost certain to result, Beijing's goals with respect to Taiwan do not favor such an all-out assault. China is no doubt seeking more subtle ways to employ its maritime power as part of its campaign to force Taipei to reunify. These include quarantine, blockade, and *guerre de course,* and could involve raids, mining, and missile strikes against

Taiwanese naval bases, ports, and airfields.

China is dependent on sea lines of communication for its economic well-being. It possesses a huge merchant marine to utilize those sea lines and its navy is the largest in East Asia. The People's Liberation Army Navy (PLAN) is on a moderate, steady course of modernization and significantly outnumbers Taiwan's navy.

Taiwan's navy is modern and professional and can at present, hold its own against the PLAN. It will not be able to maintain this advantage for long, primarily due to the fact that its submarine force and airborne surveillance assets are seriously inadequate. It is also disadvantaged geographically, and struggles for resources in an army-dominated military.

The view from Beijing

Beijing is determined to reunite Taiwan with the mainland, ensure its ability to enforce Chinese sovereignty over the East and South China Sea, and prevent the emergence of a hegemonic Japan. A strong navy is central to the achievement of all these national strategic goals. Given the maritime environment of the East Asian littoral, Chinese sea power could be a primary instrument of statecraft for reuniting Taiwan with the PRC.

The PLAN, headquartered in Beijing, is organized into the North, East, and South Sea Fleets. Each contains aviation units of the PLAN-Air Force (PLAN-AF) and is allotted a full range of ships and submarines, organized into squadrons and flotillas by ship type, with bases along the country's coast. The navy numbers approximately 230,000 personnel, including 12,000 marines. There is also a naval reserve force and militia of unknown size.

The view from Taipei

Taiwan is recognized as a nation state by less than thirty members of the world community. It faces an uncertain security situation, ameliorated only by the support of the United States (US). Taiwan's navy is composed almost entirely of ex-US ships, or ships of US design, and naval modernization depends on US assistance. The United States is the only major nation willing to sell arms to Taiwan, and is also involved in the training of Taiwan's military personnel, as well as the educating of officers in US professional military education institutions.

The Navy General Headquarters (GHQ) is in charge of developing and maintaining the force's combat readiness, as well as commanding and supervising subordinate fleet and ground units. The navy's active manpower totals 75,000, including 14,000 active marines, and an additional 35,000 in naval reserve numbers.

The navy has the ability to deploy two destroyer flotillas and one frigate flotilla, one amphibious landing flotilla and one amphibious landing vessel flotilla, one submarine group, one mine vessel fleet and one minesweeper/layer flotilla, and one logistical service flotilla and one logistical rescue group. The Taiwan force is organized into three naval districts: the 1st District, at Tsoying, is headquarters for the fleet command, and the base for southern patrol and transport squadrons, officer training, the Naval Academy and the naval shipyard (Kaohsiung). The fleet commander directs operations of the Anti-submarine Warfare (ASW) Command (established in late 1991), as well as amphibious forces, two destroyer squadrons, a patrol squadron, a mine warfare squadron, and a logistic squadron. The other two are the 2nd District at Makung, in the Pescadores Islands, and the 3rd Naval District at Keelung.

Marine corps

China’s Marine Corps numbers approximately 12,000 troops; these are organized into two self-contained divisions, and both are stationed near Zhangjiang in southeastern China; each has organic artillery, armor, engineer, signal, and other support elements. Since 2000, the PLA has transformed two infantry divisions, totaling more than 20,000 personnel, into “amphibious mechanized divisions,” one in the Nanjing Military Region (MR) and one in the Guangzhou MR. Several other PLA units are being trained for amphibious operations, sometimes at the four large joint amphibious training areas along the coast.[5]

Taiwan’s 30,000 marines are trained in amphibious warfare and special operations. The Marine Corps consists of two naval infantry divisions and a support brigade, under the Fleet Command at Tsoying on the island’s southwestern coast. Most of Taiwan’s amphibious ships are also based there. Even more than the rest of the navy, the marines have to fight for funding and frequently have to struggle for its survival as an organization.

Submarines

The PLAN deploys a large, modernizing submarine force. In addition to the more than thirty old Soviet-designed *Romeo-class* submarines, China has built nineteen *Ming-class* boats, an improved *Romeo* design. The *Mings* have in turn, been succeeded by the *Song-class,* three of which are so far in commission. The PLAN has also acquired four Russian-built *Kilo-class* submarines and eight more are on order. Although a 1970s design, if properly maintained and operated, the *Kilo* remains a very capable, quiet submarine.[6]

In addition to the new *Kilo* agreement, the Chinese may also decide to purchase the Russian follow-on design, which is equipped with an air independent propulsion system (AIP). AIP has the ability to extend a diesel submarine's submerged operating time from four, to as long as forty days.[7]

The PLAN currently has six nuclear-powered submarines: one Xia-class fleet ballistic missile submarine (FBM) and five *Han-class* attack submarines (SSN). These Soviet-designed vessels have not been entirely successful. The *Xia* has not been in operation regularly, while the *Hans* are relatively noisy and suffer frequent engineering problems.[8] China is moving to augment or replace these with new SSNs, designated the Type-093, and new FBMs, designated the Type-094.[9] Both are almost certainly relying upon Russian design and engineering assistance. The Type-093 is currently under construction, with a possible commissioning date of 2005, but the start date for the Type-094 is as of yet, undetermined.

The PLAN submarine force is also taking steps to improve its weapon suites by purchasing Russian wire-guided and wake-homing torpedoes, weapons which are difficult for surface ships to counter. Beijing has also reportedly purchased Soviet-designed rocket-propelled torpedoes from Ukraine.[10]

Taiwan, on the other hand, has just four submarines: two World War II-era, US-built *Guppy*-class submarines, used only for training, and two Dutch-built *Hai Lung (Zwaardvis)*-class submarines launched in 1986.[11]

In April 2001, the United States agreed to sell submarines to Taiwan, but four years later no firm sale is in the offing. China's international clout has prevented sales to Taiwan from any conventional submarine-building nation. For almost half a century, US shipyards have built only nuclear powered boats, and the retooling necessary for the eight boats requested by Taiwan would result in a price-tag of approximately $1 billion per submarine, twice the cost of a more widely produced, conventionally powered submarine.[12]

Surface combatants

The Chinese describe their surface combatants as the “vital” or “main” PLAN component, but evaluate even their newest eighteen warships as twenty years behind US vessels; this is an optimistic estimate.[13] For Taiwan’s navy, surface combatants are an even more important element, as it deploys twenty-four warships with twenty-first century capabilities.

Guided-missile destroyers (DDGs)

The most potent and recent addition to China's surface fleet is the *Sovremenny*-class DDG, which was designed by the Soviet Union in 1970, and is armed with the formidable *Moskit* (in North American Treaty Organization (NATO) parlance, the SS-N-22 "Sunburn") anti-surface ship missile (SSM). China's *Sovremennys* are assigned to the East Sea Fleet; two additional units have been ordered, with a probable 2006 delivery date.

The *Sovremenny*'s weak points include a trouble-prone engineering plant, short-range anti-air warfare (AAW) systems, and limited anti-submarine warfare (ASW) systems. The two embarked Ka-28 helicopters greatly enhance the ship's capability. Weaknesses in AAW and ASW highlight the fact that these ships were not designed by the Soviet Union to operate independently. As a result, PLAN wartime operations would have to be orchestrated to prevent the *Sovremenny*s' quick destruction by air or submarine attack.[14] Correspondingly, Taiwan would have to take extra care that its surface combatants are not exposed to the *Sovremenny*s without air cover.

China's most numerous large war ship forms the sixteen-ship *Luda*-class DDG. They are armed with the old, but still capable, *Hai Ying*-2 (HY) SSM system, with a range of 51 nm. These ships were constructed without an AAW missile (SAM) system, and have the typical PLAN ASW suite: medium-frequency, hull-mounted sonar, Soviet-designed mortars/depth charges, and Italian-designed torpedoes.[15] Two of the *Ludas* have also been equipped with a French-built point-defense AAW system; one has been modified to carry two French-built Z-9A *Dauphin* helicopters, and several are being refitted with new guns.

China's first warship powered by gas-turbine engines, the US-built LM-2500s, is the two-ship *Luhu*-class DDG, which is armed with the YJ-1 SSM and the *Crotale* SAMs, both relatively short-range systems (22 nm and 7.5 nm respectively). Four small-caliber rapid firing Gatling guns offer short-range air defense, and the ship is also equipped with US-built Super-Rapid-Blooming-Offboard-Chaff (SRBOC) dispensers.[16] A

French-designed *Tavitac* combat integration system and a logically designed combat direction center enhance the *Luhu's* combat effectiveness.[17] They carry *Zhi-9A* helicopters as lead elements of an ASW suite, which includes a hull-mounted, medium-frequency sonar, Italian-designed torpedoes, and Soviet-designed mortars.[18]

The newest Chinese-built warship is the single *Luhai*-class DDG, which went to sea in 1998. Four follow-on units, the Type-052 class, are under construction and appear to be outfitted with an *Aegis*-like AAW area defense system, an important first for the PLAN, particularly if a Taiwan scenario were to involve intensive air warfare.[19]

With the displacement of 7,940 tons to its 4,200, the *Luhai*-class is significantly larger than the *Luhu,* but is similarly armed. Its larger size may have been due to its larger Ukrainian-built gas turbine engines. It offers valuable room and stability as the PLAN acquires improved weapons and sensor systems to modernize the ship. For example, it is able to embark Ka-28 helicopters.[20] China has also claimed that the *Luhai*-class has significant stealth characteristics, making "its special invisibility feature…even more prominent," but pictures of *Shenzhen* do not support this claim.[21]

Taiwan's surface combatant force is more modern and capable than China's, although less in number. The destroyer force will be led by the four *Kidd*-class DDGs recently purchased from the United States, which will join Taiwan's fleet by the end of 2005. These ships displace 9,000 tons and will be Taiwan's largest combatants. The *Kidds* are superb, long-range AAW ships, firing SM-1 *Standard* SAMs and *Harpoon* SSMs. They have two 120 mm guns, rapid-fire Gatling guns, SRBOC, and are equipped with a powerful open-ocean ASW suite, including anti-submarine rockets (ASROC), torpedoes, and two helicopters.

The Taiwan navy may also, in the near future, acquire destroyers equipped with the US *Aegis* AAW system, either by buying ex-US cruisers, or by acquiring the technology and building its own ships, as some European navies are doing. Aegis ships would be expensive, probably as large as the *Kidds,* and just as expensive to operate, maintain,

and crew. Taiwan's seven World War II-era destroyers are already being decommissioned to provide the approximately 1,500 personnel billets needed to man the four *Kidds*.[22]

Guided missile frigates (FFGs)

The PLAN's newest guided missile frigate (FFG), the Type-054 *(Maanshan),* is currently under construction and nearing completion.[23] It will augment the nine *Jiangwei*-class, the first of which was commissioned in 1991.

The *Jiangwei's* displace 2,250 tons and are armed with YJ-1/2 SSMs and *Hong Qi-61* or *Crotale* SAMs, and additional air defense is provided by Gatling guns and the US-designed SRBOC chaff launcher.[24] They are powered by German-designed diesel engines, an ASW suite of hull-mounted, medium-frequency sonar, and ASW mortars, but no torpedoes. The ships embark a single Z-9A helicopter and have a well designed combat direction center(CDC).[25]

The *Jiangwei*-class represents a significant step forward from the older *Jianghu*-class frigates, a twenty-eight ship class commissioned between the mid-1970s and 1996. They are diesel-powered, armed with four HY-2 SSMs, but have no effective AAW systems. Their ASW suite is limited, and they lack a CDC.

Taiwan's navy leads China in the capability and technological sophistication of this class of ships. Its frigate force is led by six French-designed *Kang Ting (Lafayette)*-class FFGs, relatively stealthy ships acquired during the mid-1990s. They are fitted with very capable weapons and sensors suites, including a Taiwanese version of the *Exocet* MM40 SSMs, the *Hsuing-feng* 77, a 76 mm gun, and US *Sea Chaparral* SAMs.

The fleet also includes seven *Cheng Kung*-class FFGs, modeled after the US-designed *Perry*-class. The *Cheng Kungs* boast the US *Standard* SAM, which is longer-range and much more capable than the *Sea Chaparral,* and *Harpoon* SSMs. Taiwan's frigate force also includes eight ex-US *Knox*-class *(Chi Yang)* ASW frigates, which are armed with *Harpoon* missiles, a 120 mm gun, and ASROC missiles.

All three frigate classes displace approximately 4,000 tons, are capable of embarking helicopters, and are armed with anti-missile Gatling guns and torpedoes. The *Chi Yangs* are equipped with powerful, low-frequency

sonar intended for open ocean operations, while the *Kang Tings* and *Cheng Kungs* have a higherfrequency sonar more suitable to the confined waters of the Taiwan Strait. All of Taiwan's destroyers and frigates have an electronic warfare suite that includes SRBOC and the SLQ-32 system, superior to anything in the PLAN.

Small craft

The PLAN includes perhaps sixty Chinese versions of the old Soviet-designed *Osa* and *Komar*-class patrol boats, with the capability of firing SSMs with a 25 or 45 nm range. These boats are being replaced by five *Houjian*-class and twenty (to date) *Houxin*-class patrol boats, armed with YJ-1 SSMs, with a 25 nm range, and capable of operating in the waters around Taiwan in calm to moderate weather. The PLAN also has about 250 patrol boats armed with guns or torpedoes.

Coast guard functions in China are conducted by several maritime organizations, none of which are part of the PLA, but in times of conflict their numerous patrol craft would presumably be tasked by the military.

Taiwan's navy deploys approximately sixty patrol craft, including boats of US, Israeli, British, and Taiwanese design. Active building programs are producing SSM-equipped *Kuang Hua* classes to replace the older boats.

The Taiwan Coast Guard was organized in 1998, and reorganized in 2002. In the event of war, the Coast Guard and other police organizations with maritime responsibilities come under the jurisdiction of the navy. The Coast Guard operates approximately three dozen patrol craft of various sizes and capability, none heavily armed.

Missiles

Although not a PLAN asset, China's numerous short- and intermediate-range ballistic missiles form an important weapon in the balance of forces across the Strait.[26] The Chinese navy deploys a formidable array of anti-surface ship missiles. The most capable is the Russian-built *Moskit,* which has a range of over 87 nm, carries a 661-pound, conventional warhead, and flies a very complex flight profile that makes it extremely difficult to shoot down.[27] China has at least forty-eight *Moskits* in its possession.[28]

Even the fifty-year-old Soviet-designed *Styx* missile on the *Jianghu*-class, and some small craft, is a weapon that matters.[29] China's SSM industry is producing copies based on the *Styx* and on the French-built *Exocet*. As a further effort to include models launched from submerged submarines, long-range cruise missiles, with a range of more than 200 km, are under development.[30]

Taipei is pursuing anti-ballistic missile defense, almost certainly with US participation.[31] By having acquired the French-designed *Exocets* with the *Lafayette*-class frigates, the island's navy is also well armed with cruise missiles. Its best SSM is the US-designed *Harpoon,* which is equipped with very capable targeting and fusing systems; however, it has a limited range, of less than 100 nm. Taiwan also produces the *Hsiung Feng I* and *II* SSMs, which are effective versions of the *Harpoon.* Some of its patrol boats are armed with the Israeli-produced *Gabriel* II SSM. The Taiwan navy may also deploy several batteries of the *Hsiung Feng II* SSM for coastal defense of the offshore islands, including Kinmen and Mazu. Taiwan's military research and development laboratory is also pursuing the development of a long-range cruise missile.[32]

Naval aviation

The PLAN's own "air force," the PLAN-AF, includes almost 800 aircraft, although this number is being reduced as obsolete models are retired.[33] The PLAN-AF's pattern of aircraft acquisition indicates that it is a "poor cousin" to the PLAAF, and the last to receive new aircraft.

Naval air missions include fleet air defense, at-sea reconnaissance and patrol, electronic countermeasures, transport, mine-laying, rescue, and vertical assault.[34] Surveillance aircraft include six SH-5 amphibians and six maritime versions of the Soviet-designed Y-8 (AN-12) transport, and are capable of rudimentary ASW operations. The navy also operates about fifty B-6 (Soviet-designed Tu-16) bombers; twenty are armed with anti-ship cruise missiles.[35] The most serious naval aviation shortfalls are in the absence of effective ASW aircraft, as well as the absence of tankers, and command and control aircraft.

The PLAAF is continuing to man China's AAW radar and missile sites and most of its modern aircraft. Joint naval aviation operations with the PLAAF are crucial to the fleet's success, but such operations are not routine. The absence of a joint operating doctrine and experience will ultimately hinder operations in a Taiwan campaign.[36]

The PLAN's strongest aviation force is its helicopters; this force is made up of twenty-four French-designed (SA 321G/Zhi-8) ASW helicopters and operated by the *Luhai, Luhu, Luda III,* and *Jiangwei*-class combatants. China has also acquired at least eighteen Russian-built Ka-28 helicopters, which are capable of both ASW and anti-ship roles, which fly from the *Sovremenny*-class and *Luhai* DDGs.[37] All of these models can launch ASW torpedoes, and some may be equipped with dipping sonar.

Taiwan's naval air force is small, with a fixed-wing inventory led by twenty-eight S-2T ASW aircraft acquired from the United States. They reportedly have a very poor readiness record, with only twelve of them operable. These 1950s-era aircraft are not only old, but while tasked by the navy, are in fact flown and maintained by the air force; a recipe for failure. The navy's shipboard helicopter force is much more impressive.

It includes twelve SH-60B and twelve SH-2G *Seasprite* ASW helicopters, and twelve Hughes 500 MD aircraft, all of US origin.

Taiwan's aviation patrol force is the weakest part of its defense structure. In April 2001 the United States offered to sell to Taipei the very capable P3C patrol plane, which can detect, localize, and attack both surface and subsurface targets with missiles and torpedoes. The P3C would provide the surface and sub-surface surveillance and attack capability necessary for Taiwan's successful defense; it or some other modern patrol plane should be Taipei's number one equipment acquisition priority. Taiwan's government, however, has not committed to buying the P3C, or its equivalent.

Taiwan's navy seems to train jointly with its air force and army brethren no more frequently than its PLAN counterpart, although, given its restricted area of operations, effective joint operations are even more vital for the island's navy. Taiwan is also having difficulty retaining trained pilots in both its navy and air force.

Mine warfare

Mines are the most cost-effective form of naval warfare, especially in littoral waters. The PLAN deploys only one dedicated minelayer, although almost any naval surface ship, as well as most merchantmen and fishing trawlers, is capable of sowing mines.[38]

China has a mine clearing force of twenty-seven Soviet-designed T-43 ocean-going and eight coastal minesweepers.[39]

The PLAN's mine inventory may number over 100,000 mines, although probably 90 percent of these are unassembled, old-fashioned contact mines, not of the more capable magnetic, pressure, acoustic, and rocket-propelled varieties.[40]

Contact-fused mines, based on a 1908 Russian model, are still widely used around the world. Their continued effectiveness has been evidenced by the damage suffered during the 1991 Gulf War by USS *Tripoli* (LPH-10), a small aircraft carrier which was removed from battle after striking an Iraqi contact mine. An Aegis cruiser, the USS *Princeton,* was also put out of action by mines during this war.[41] These two ships ran into a randomly laid minefield of approximately 1,000 mines, a small number by historical standards.[42]

Beijing's ability to use mine warfare to coerce Taipei would be enhanced by Taiwan's weak counter-mine forces. The navy includes just eight ex-US coastal and ocean minesweepers built in the early 1950s, four newer coastal mine hunters purchased from Germany in 1990, and eight minesweeping boats.

Mine warfare however, is susceptible to mathematical analysis and planning. It is hence simple to conclude, as does the author of the MIT study cited above, that "a PRC mine blockade [of Taiwan] would not be militarily decisive." More to the point is this same analyst's caveat about the potential for a "quick collapse of society," resulting from "Taiwan's reliance on trade and its geographical proximity, China's large inventory of sea mines, and Taiwan's poor mine counter-measures (MCM) capabilities."[43] The effectiveness of Chinese mine warfare against

Taiwan would more likely be determined by the resilience of the government, military leadership, and people of the island than it would be by mathematics.

Logistics at sea

All PLAN front-line combatants are equipped with weapons and sensor systems, and in some cases propulsion plants, of foreign design/manufacture. These include systems from France, Italy, Great Britain, Spain, the United States, Ukraine, and in particular Russia.

Different ships of the same class require different components and different systems, ultimately complicating the stocking of replacement parts, the acquiring of test equipment, and the training of maintenance technicians. The combination of foreign and Chinese-built units within the same system—a French-built missile system with a Chinese air-search radar, for instance—further complicates this problem.[44]

Lack of commonality can reduce system efficiency and warship lethality. PLAN writings acknowledge this weakness and the importance of systems integration, and significant progress has been made in rationalizing and improving naval logistics. For instance, joint fuels management and an administrative reorganization of the naval base system, should yield important benefits, as can other improvements in logistics systems manning and management.[45] For instance, the Nanjing MR was the first to establish a unified logistic command, most probably resulting from that MR's responsibility for Taiwan operations.[46]

Replenishment at sea

The Chinese fleet includes three modern ships capable of replenishing warships when they are underway in the open ocean. Each of the three fleets is assigned one of these, *Nanyun* in the South Sea Fleet and a *Fuqing*-class in the North and East Sea Fleets. These are large ships (37,000 and 21,000 tons displacement, respectively), capable of refueling two ships at once. Although two additional *Fuqings* were built, one was sold to Pakistan and one was converted to the civilian merchant fleet,[47] indicating that the PLAN was not concerned about further increasing its ability to conduct underway replenishment. Two new AORs, or multi-capable underway replenishment ships, are under construction, however, possibly intended for the PLAN.

Troop transports include six *Qiongsha*-class ships, all of which are stationed in the South Sea Fleet. Two of these have been converted into hospital ships, while the other four are capable of embarking 400 troops each.

Beijing deploys more than fifty survey and research ships, variously operated by the Academy of Sciences, the Ministry of Communications, the State Oceanography Bureau, or the Hydrographic Department. Most of these may serve as intelligence gatherers, as can as many as eighty fishing trawlers.[48]

Taiwan has the ability to deploy only one replenishment at sea ship, the *Wu Yi*. It is a 17,000 ton-displacement vessel with a large flight deck, and capable of refueling two ships at once. The navy also has two smaller tankers and six transports; the latter are able to embark approximately 500 troops each.

The Taiwan navy depends so overwhelmingly on US-supplied ships, aircraft, weapons and sensor systems, that its maintenance, supply, and personnel training needs do not suffer from a lack of commonality and integration. This reliance, however, is also a drawback, as it reduces Taipei's motivation for building the infrastructure necessary to maintain its own naval defense.

Merchant marine

As much as 50 percent of China's economy depends on foreign trade, with about 90 percent of this transported by ship. China is also dependent on sea transport for many other resources, including food and energy. Tankers also carry almost all oil imports and the millions of tons of grain imported each year by sea.[49]

China's large and growing merchant fleet of more than 1,817 ships with displacement exceeding 1,000 tons, calls at over 600 ports in more than 150 countries.[50] This fleet is supported by a growing complex of shipyards, including one that will be the world's largest, as Beijing pursues an announced goal of becoming the world's leading shipbuilder.[51] The more than 1,200 building and repair facilities are led by three major groups in Dalian, Shanghai, and Guangzhou. Beijing is also engaging in an extensive overhaul of the infrastructure devoted to regulating, managing, and promoting its merchant marine industry, from ship safety to navigation aids.

Taiwan is absolutely dependent on sea lines of transportation for economic resources, trade and energy: "more than 80 percent of its GNP is trade-related, and 99.6 percent of imported and exported raw materials and goods depend on maritime transport [including] every single drop of crude oil."[52] The island's significant merchant marine numbers 142 ships with a displacement of more than 1,000 tons.

While Kaohsiung is Asia's largest container transfer port, Taiwan does not occupy a major controlling point over Asia's primary sea lines.[53] The most important trade routes for dry bulk and crude oil cargoes run to the east of the island. The Luzon Strait (between Taiwan and Luzon) may be a potential choke point for this traffic, but a study by the US Center for Naval Analyses concludes that changing trans-Luzon Strait sea lines, to flow south along the east side of the Philippines, would raise shipping costs only minimally.[54]

Shortcomings

The PLAN recognizes and is trying to correct deficiencies in its warfare capabilities. The head of the PLA's research and development process, current Minister of Defense Cao Guangchuan, complained that "because of low pay, it was difficult for his department to retain top-quality scientists and researchers,"[55] and went on to say that "the task of developing the Navy's armaments is arduous."[56]

The PLAN appears to have four areas of weakness, and all are important for establishing sea control. First is the lack of effective *area* AAW defense— the ability to defend not just individual ships, but also groups of ships. The DDGs currently being built, as a follow-on class to the *Luhai,* may give the PLAN its first area defense AAW capability.

Second, submarine detection is very difficult and the PLAN does not appear to be equipped with modern sonar processing technology; its current equipment is thirty years old.[57] The PLAN also lacks significant airborne ASW assets, and there is no open-source evidence to support that China has deployed bottom listening (sonar) arrays in its coastal waters.[58]

Third, modern naval warfare requires the effective integration of shipboard, airborne, and shore-based systems. and the PLAN does not score well in this area. China's surface ships are limited in their central combat direction systems, and may still not be outfitted with fully integrated, automated sensor and weapon systems.[59]

The Taiwan navy's primary shortcoming is simply its size. The PLAN is so much larger, that in an all-out conflict individual Taiwanese ship capability may be overwhelmed by their sheer numbers. In addition, the navy's primary base, at Tsoying, suffers significant shortcomings, including: a relatively small harbor, a limited single channel for entrance and egress, and a water depth of less than ten fathoms in many places. This means, for instance, that the newly-purchased *Kidd*-class DDGs cannot be berthed there without significant dredging. Until this is completed, the *Kidds* will be homeported at Suad, just south of the naval

base.[60]

Perhaps most significantly, Tsoying is located on the Taiwan Strait, directly opposite the PRC, exposing the core of the fleet to direct access by the PLAN and PLAAF. In the event of hostilities between Taiwan and the PRC, the navy's first move is likely to be abandoning its primary base.

Scenarios

Other than defense of the homeland, the PLAN's number one objective is preparing to act in support of reunifying with Taiwan. As a result, the PLAN is also almost certainly the only opponent for whom the Taiwan navy plans. It must prepare for potential confrontation, and to defend the island against a full scope of hostile campaigns by China, from all-out amphibious assault to subtle campaigns based on economic pressure and attacks designed to weaken the will of the Taiwan populace;[61] all of which requires the navy's full maintenance of the control and surveillance of the waters surrounding the island, completed jointly by air force and army operations.

A full-scale amphibious assault on the island by PLA forces is not likely, for several reasons. First, Beijing would very much prefer a peaceful reunification. The employment of armed force against Taiwan will damage the island's economy and embitter the populace.

Second, the PLAN does not currently possess, and does not appear to be constructing, the amphibious assault ships necessary for such an operation.[62] Any alternative, such as the use of merchant and fishing vessels, is not viable on the scale necessary for a full blown amphibious invasion of Taiwan. While the PLAN has organized and exereised this option on a small scale, the difficulties of command and control alone make it problematic, as do the difficulties of embarkation, defense during transit, and the landing itself.

Third, the preparations required for a large-scale, traditional amphibious assault against Taiwan would provide enough advance indications and warning to allow for defensive and preemptive preparations by Taiwan and the United States.

The Taiwan navy must also be prepared to counter a less straightforward class of contingencies that may involve the application of armed force less in scope than attacking the island of Taiwan itself. The PLA may, for instance, attack with the objective of seizing other Taiwan-occupied islands, such as Kinmen or Mazu off the Fujian coast, or Tungsha (Pratas Reef) or Tai Ping (Itu Aba) in the South China Sea, or

even the Penghus. Taipei would then face the difficult issue of when, and to what degree to commit naval and air forces to defend these outposts, at the risk of weakening Taiwan's central defense of the main island. While it would be more achievable for the PLA, this option is also troublesome for Beijing, as it might not be decisive enough to force Taipei to agree to reunification.

A third area of potential PLAN operations against Taiwan would be as part of a plan to pressure the island's economy. Beijing may actually declare a quarantine/blockade of Taiwan, to be enforced by the PLAN—especially its submarines and minefields—and the PLAAF. While a blockade is an act of war under international law, the great majority of nations do not disagree with Beijing's position that Taiwan is a province of China. Beijing may then claim that this was merely a "closure of ports," which was within its sovereign rights.

A further variation on this would be if Beijing to announce that Taipei, as a legal Chinese province, was refusing to pay required taxes to the nation's government, and that China was then taking over the management of Taiwan's international trade. To this end, all foreign merchant ships calling at the island would then have to first embark Chinese pilots to navigate into Taiwan's ports—through minefields laid by the PLAN.

This would not only impose severe constraints on Taipei's ability to conduct independent international trade, but would also place the United States in a difficult position. For Washington to intervene under the 1979 Taiwan Relations Act, in the face of an all-out Chinese invasion of Taiwan, would be a relatively straightforward decision, but diplomatic announcements and minefields are more nebulous conditions for clear-cut decision making.

Other scenarios not necessitating the employment of brute military force are also possible, however. A former Deputy Commandant of the PLA's Academy of Military Sciences observed in 2000 that

> As Taiwan is weak in the overall warfare situation, the PLA need not use too many troops… China may probably be weaker than

Taiwan in certain aspects of the navy and air force.… [However] we do not need to utilize very massive forces to attack Taiwan.… [It is] an island which mainly relies on marine shipping trade. If we do something in this regard, Taiwan will have problems in its economy. Therefore, Taiwan is very feeble.[63]

The role of the United States

The United States Navy (USN) is without a doubt the most powerful maritime force in the world, in terms of space, aviation, surface, and subsurface capability. China and Taiwan are both well aware of this, but appear to be reacting very differently. Beijing no doubt considers American sea power a daunting obstacle to any successful employment of maritime pressure against Taiwan, but is determined not to let that fact prevent reunification.

Beijing is not simply comparing the USN and the PLAN, but is also attempting to identify how to accomplish its objectives despite the unfavorable comparison. From China's perspective, the chief US naval threat is posed by its aircraft carriers. Hence, the military press often publishes articles depicting carrier vulnerability and offering descriptions of PLA anti-aircraft carrier tactics.[64] Typical is the claim that carriers are "obvious" targets that "can be easily attacked by submarines, missile destroyers, and land-based missiles."[65] These authors' claims about being able to detect, locate, target, and attack carriers are shallow and uninformed. They are obviously intended for lay audiences, and hopefully do not reflect the real thinking of serious Chinese strategists. In fact, the most dangerous factor in China's calculation, for using armed force against Taiwan, may be the PLA conclusion that it can fight and defeat the US military in a Taiwan scenario.[66]

Taiwan may be relying too much on US military intervention to preserve its independence. The timelines and resources for US assistance are more limiting than might at first appear.

Should the United States intervene in a mine warfare scenario, its navy would initially bring just two minesweepers (MCMs) based in Sasebo, Japan; if at a maximum state of readiness, these would take from three to five days to arrive on scene, but much longer if undergoing maintenance. The arrival of additional mine warfare ships or US minesweeping helicopters would take anywhere from ten to more than thirty days. Ten of the US Navy's remaining twelve MCMs are home ported in Ingleside, Texas, while the other two are deployed permanently to the Persian Gulf.

Two of the smaller mine hunters (MHCs) are assigned to the Persian Gulf, and the remaining ten are home ported in Ingleside. The sole US mine support ship, a former helicopter carrier, is also home ported in Texas, while the ten mine sweeping helicopters are based in Norfolk, Virginia. Hence, any large-scale deployment of US mine warfare forces would be a lengthy evolution.

The future naval balance

Recent articles in the mainland military press report PLA views of the Taiwan navy's strengths and weaknesses, though these descriptions were written for public consumption and are draped in nationalist trappings. A 1998 analysis pointed out the geographical disadvantages under which the Taiwan navy has to operate. A 2000 article also addressed this point, but went on to offer what seems to be an accurate analysis of steps the Taiwan navy is likely to take to counter PLAN interdiction operations, especially those of submarines.[67]

China is pursuing multiple paths to acquire a modern navy, including: indigenous construction, reverse engineering of foreign ships and aircraft, and the outright purchase of foreign platforms.[68] Each of these methods has drawbacks.

First, despite fifty years of experience, China is still struggling to establish an efficient military-industrial complex, which includes the research, development, manufacturing, testing, and support of modern military systems.[69]

Second, China has an inconsistent record of reverse-engineering of foreign systems, taking an average of fifteen years to proceed from sample platform to series production.[70]

Third, while foreign purchases, such as the recent acquisition of Russian of *Kilo*-class submarines and *Sovremenny*-class DDGs, make headlines, China is not likely to devote the massive amounts of hard currency necessary to purchase a complete navy abroad. To do so would have an adverse impact on Beijing's current emphasis of a growing domestic economy and civil infrastructure. Furthermore, reliance on foreign arms purchases both retards the growth of the Chinese defense industry, and to a certain extent mortgages the military to the originating country for maintenance, training and spare parts.

The Chinese navy remains much smaller than the army. Its disproportionate share of the defense budget, however, does not reflect the balance of influence at military headquarters, which continues to reflect the army's dominance in PLA policy making and senior

leadership.

Taiwan's navy has an accurate picture of the PLAN and its capabilities, but this does not lessen the disparity in numbers that it faces, nor the difficult geographic situation in which it must operate. It faces an even more troublesome modernization process than does the PLAN. First, neither the administration nor the legislature has been able to provide the financial resources necessary for systematic moderaization, from command and control to increased logistical support.

Second, the changes and cuts made to the obligatory military service system, for Taiwan's youth, is hampering the navy's training programs and its ability to produce a capable corps of technically proficient petty officers. The announcement to move to an all-volunteer force will make the navy's ability to man its ships even more difficult.

Third, apparent leadership indecision about equipment acquisition continues to hamper Taiwan's naval modernization.

Fourth, the question of Taiwan's will to persevere introduces an element of uncertainty into any calculation of how the Taiwan navy would perform against its mainland counterpart, especially given the growing level of nationalism that seems to be developing in the PRC.

Control of the sea in the twenty-first century first requires control of the air. Comparison of the respective air fleets currently has Taiwan in the lead. in terms of aircraft capability and pilot proficiency, but this may change as the PLAAF deploys increasing numbers of Su-27 and Su-30 aircraft, as its pilots increase their joint and maritime training, and as Taipei continues to struggle to implement a coherent defense policy with the necessary budgetary support from the legislature. This support has not been forthcoming, whereas the PLA's budget has benefited from annual double-digit increases before 1992.[71]

Senior Taiwan Air Force officers have noted that given the present course of events, by 2005 control of the air over the Taiwan Strait will pass from Taiwan to the mainland. In a wartime scenario this will greatly enhance the PLAN's ability to establish control of the sea in the waters surrounding Taiwan. Given the island's reliance on maritime commerce,

that would place such additional pressure on the island's economy, and hence its leadership and population, that Taipei may have to accede to reunification on Beijing's terms. Furthermore, China can utilize its vast hinterland and its many air bases in an air war. Taiwan, on the other hand, is a relatively small island with few air bases, and would operate at a disadvantage in an air contest.

Conclusion

Even without outright control of the air over the Strait, China would be able to employ mines and its large submarine fleet, as a means of establishing a blockade of Taiwan's major ports, and in order to significantly slow US naval intervention. If, for instance, China is able to deploy two dozen or so submarines for thirty days, and then maintain at least half of those on station for ninety days or more, then the maritime contest for Taiwanese waters would be all but decided. Taiwan analysts and senior naval officers have emphasized that ASW is central to the navy's ability to defeat a Chinese blockade.[72]

Mining is another blockade method. Due to the increased maritime insurance rates that would follow the first incident of a merchant ship striking a mine, and the resulting downturn in Taiwan's stock market and reduced public confidence on the island, even minimal mining would be a sufficient pressure force for Taipei.

China may also implement a blockade of the island by stationing surface combatants in primary sea lanes, with shore-based air cover overhead. This, however, would also be the least effective and most costly tactic for Beijing to adopt, since it would allow the Taiwan navy a greater number of opportunities for breaking the blockade.

Any blockade of Taiwan would be simplified by the concentration of maritime trade in the Kaohsiung and Keelung ports, which handle more than 70 percent of the traffic. The mining of these ports would be difficult, because of the ocean bottom's steep gradient around most of Taiwan; it is more difficult to place mines in very deep waters. However, the depth of water close to shore would facilitate the use of submarines as blockading platforms, since deep water increases their maneuvering room, making them more difficult to detect and combat, and enhancing their operational effectiveness.

Other scenarios have been offered, although all seem to focus on isolating island-Taiwan, "on controlling the sea and the air [and] on opening up sea passages," and pressuring Taipei to deal with Beijing on the latter's terms.[73] Taipei's sensitivity to the range of options, from

moving PLA units around on the mainland to conducting amphibious or missile-firing exercises, is indicated by President Chen Shui-bian's recent argument that such activities would constitute aggression on China's part and serve as grounds for a possible formal declaration of independence.[74]

The 1999 US Department of Defense report on the military balance across the Taiwan Strait warned that China retained "the capability to interdict Taiwan's sea lanes of communications and blockade the island's principal maritime ports." The 2003 report notes only that China would attempt to base naval operations on speed and surprise, and that the Taiwan scenario "remains the focus of China's military modernization."[75]

The PLA may not be able to secure long-term command of the sea around the island against Taiwan's military forces, but by utilizing submarines and mines, the PLAN is capable of effectively blockading the island. There is little question that so long as the United States does not massively intervene, Beijing will be able to force Taiwan to the negotiating table on China's terms.

Notes

1 Zhu Xianlong (Institute of Taiwan Studies, Beijing Union University), "Analysis of Hankuang No. 19 Exercise," *ET Today* (10 November 2002), 1, provides comparative, somewhat soft figures; obviously, however, the PLA significantly outnumbers the Taiwan military in most areas.

2 Richard A.Bitzinger and Bates Gill, "Gearing Up for High-tech Warfare?: Chinese and Taiwanese Defense Modernization and Implications for Military Confrontation Across the Taiwan Strait, 1995–2005," (Washington DC: Center for Strategic and Budgetary Assessments, February 1996), 3.

3 Weapons ranges and geographic distances are given in nautical miles, one of which equals approximately 1.2 statute miles.

4 Author's interviews with US Navy Meteorological Service officers, in August 1999. Also see Eric McVadon, "PRC Exercises, Doctrine and Tactics Toward Taiwan: The Naval Dimension," in James R.Lilley and Chuck Downs (eds) *Crisis in the Taiwan Strait* (Washington DC: NDU Press in cooperation with AEI, 1997), 249–78, for a comprehensive discussion of this subject.

5 I am indebted to LTC Dennis J.Blasko, USA (Retd) for this information.

6 The new *Kilos* may be delivered by the end of 2005. China's training and maintenance problems with the Kilos are in Kathy Chen, "China's Inability to Keep Subs Running Shows Broader Woes Plaguing Military," *Wall Street Journal* (1 August 1997), 1; and "Chinese Subs Experience Battery, Training Problems," *Navy News and Undersea Technology* (1 September 1997), 5; "New PLAN to Train, Purchase Vessel Mix," *Jane's Defence Weekly* (16 December, 1998), 25; Stephen Saunders (ed.) *Jane's Fighting Ships, 2003–2004* (Coulsdon: Jane's Information Group, 2003), 118 [referred to hereafter as Jane's] reports battery and other engineering problems. Training problems are noted in Richard Fisher, "Appendix to Chapter 5: Foreign Arms Acquisition and PLA Modernization," in James R.Lilley and David Shambaugh (eds) *China's Military Faces the Future* (Washington DC: AEI and M.E.Sharpe, 1999), 164. Also see Marina Shatilova, "Zvezda Shipyards Receives Order to Repair Chinese Submarine," ITAR-TASS (16 June 2000), in FBIS CEP20000616000016.

7 Russia has been a leader in trying to develop AIP technology; although still on the cusp of reliability, several countries have operated AIP variants at sea and Pakistan is acquiring three AIP-equipped submarines from France.

8 *Jane's Defense Weekly,* vol. 30 (16 December, 1998), 25, reports Han engineering problems. *Jane's,* 114, notes that a second Xia-class submarine may have been so severely damaged in an accident that it was never commissioned.

9 The PLAN uses "type" numbers for its submarines. For example, the *Romeo* is designated Type-033, the Ming is Type-035, the Song is Type-039, the Han is Type-091, and the Xia is Type-092.

10 Robert Karniol, "China Buys Shkval Torpedo from Kazakhstan," *Jane's Defence Weekly,* vol. 30 (26 August 1998), 6. Submarine-launched anti-surface ship torpedoes may be "free-fired," but most modern weapons are "wire-guided," which allow the submarine to update target information after the torpedo is launched. A "wake-homing" torpedo finds the disturbed water that is inevitably created by a surface ship's propeller(s), and then simply follows this wake to the ship. The Shkval rocket-propelled torpedo is relatively inaccurate,

but travels at such a high rate of speed—perhaps up to 200 knots, which is far faster than other torpedoes' 40–50 knots—that it is difficult to avoid by its target.

11 Taiwan ordered these submarines in September 1981. Beijing punished Amsterdam by downgrading relations; the Dutch turned down Taiwan's 1992 bid for additional submarines.

12 Conversation with US officials. This refusal came despite the Netherlands' offer to sell two *Zwardvis*-class submarines to Egypt for $55 million each.

13 Bai Chuan, "Chinese Navy's Development and Construction," *Ching Pao,* 258 (Hong Kong), 1 January 1999, 41–3, in FBIS-CHI-99–024.

14 "Modern-class Destroyer to Patrol Off China," *Wen Wei Po* (Hong Kong), 13 February 2000, Al, in FBIS CPP20000214000053, and author's discussion with US analysts report that the Sovremennys suffer "carryover" in their propulsion plants.

15 "Taiwan Intelligence Indicates Mainland Submarine to Test-Fire Anti-Submarine Missiles in a Month," *Ping Kuo Jih Pao* (Hong Kong) April 1997, A16, in FBIS-CHI-97–097, reported that a Song-class submarine was going to test-fire a new ASW missile, the *Yingji-8,* but this has not been confirmed. Also see *Jane's,* 124–5.

16 This system projects canisters of "chaff"—strips of metal foil cut to specific lengths—which burst at altitude above and away from the launching ship. These "blooms" serve as alternate targets for incoming missiles, drawing them away from the ship.

17 Discussion with McVadon. Much of the combat direction center equipment uses English-language displays and labels, as observed by the author during a visit to various PLAN ships and to the combat systems training facility in Dalian. Also see "China Gets to Grips with Luhu Technology Gap," *Jane's Navy International,* vol. 101 (November 1996), 8; and James W.Crawley, "Chinese Navy Changing from Lean to Mean," *San Diego Union-Tribune* (26 March 1997), 1, report that "Many [officers and sailors] know some English, which is required to operate the European-built weapons and electronics systems and US-built gas turbines."

18 China acquired only five LM-2500 marine gas-turbine engines from the United States, before the post-Tiananmen Incident sanctions halted such sales. Two of these engines power each of the *Luhus*.

19 Andrei Chang ("Pinkov"), "Second Chinese 'Aegis' Launched," *Kanwa News* (10 November 2003), at kanwa<\\>@>ica.net.

20 Jane's, 121; author's conversations with senior PLAN officer and US analysts.

21 Si Liang, "Special Article," *Zhongguo Tongxun She* (Beijing) 15 February 2000, in FBIS CPP20000215000069. The ship's superstructure and deck equipage include too many "corners" that could and should have been eliminated to reduce radar reflectivity. Furthermore, the ship does not seem to have a radar-absorbent coating, although this may have been added.

22 Author's conversations with senior Taiwan naval officers in 2002.

23 "PLA Navy Launches a New-generation Stealth-type Missile Frigate in Shanghai," *Oriental Daily* (http://orientaldaily.com.hk/font/fc7d_5nbk.gif), 25 September 2003, in US Pacific Command "Virtual Intelligence Center" [referred to hereafter as "VIC"] report of 26 September 2003.

24 *Jane's,* 128.

25 Author's visit onboard *Jiangwei* hull number 539 (hull numbers are sometimes changed), in May 1998. The CDC resembled that of an American missile ship, c.1968.

26 See Chapter 4 for a detailed analysis of the missile threat.

27 Sovremenny characteristics are provided in *Jane's,* 120; also see Liu Hsiao-chun, "Chinese Navy Strengthens Its Fighting Capabilities on Oceangoing Voyage," *Kuang Chiao Ching* (Hong Kong) 16 April 1997, in FBIS-CHI-97–088. The missile is probably capable of being armed with a nuclear warhead.

28 Nikolai Novichkov, "First Lot of Russian Moskit Missiles Shipped to China," ITAR-TASS (16 May 2000), in FBIS CEP20000516000142; Roman Khrapachevskiy and Igor Ivanov, "Profits of War," ITAR-TASS (16 May 2000), in FBIS CEP200005170002000.

29 Steven J.Zaloga, "Russia's Moskit Anti-Ship Missile," *Jane's Intelligence Review* (April 1996), 155–8, reports that an air-launched version has been developed. but not sold to China.

30 Mark A.Stokes, *China's Strategic Modernization: Implications for the United States,* (Carlisle PA: SSI, 1999), provides an excellent synopsis of China's current cruise-missile development programs. "China: Surface-to-Surface Missiles,"E. R.Hooten (ed.) *Jane's Naval Weapons Systems,* 1996, issues 15, 21, 22 (Coulsdon: Jane's Information Group, 1998). Probably two of the Han-class submarines are able to launch either the YJ-1 or YJ-2 while submerged.

31 Defense Minister Tang Yiau-ming, quoted in "Defense Ministry Reviews Taiwan's Missile Capabilities," *Taiwan News* (Taipei), 16 January 2004.

32 Author's visit to the Chungshan Institute of Science and Technology (CIST) in May 2002. Also see Lu Te-yun, "Land-Attack Cruise Missiles Developed by Our Military Are 'Defensive Deterrent Weapons'," Taipei Lien-Ho Pao (26 June 2001), in FBIS CPP20010626000165.

33 Jane's, 129.

34 Shen Lijiang, "Aerospace News," *Hangkong Zhishi (Aerospace Knowledge),* Beijing (9 August 1998), in FBIS CHI-98–028.

35 Mark Farrer, "China's Air Force—Kosovo Spurs a Race to Change," *Asia-Pacific Defense Reporter* (October/November 1999), 20, 21.

36 Author's discussions with US analysts and senior PLAN officers; also see Xu Zuzhi, "Remarkable Deterrent Power Displayed by the Chinese Air Force," *Zhongguo Xinwen She* (Beijing) 1 October 1999, in FBIS CHI-1999–1005, a public relations-type article that lists PLAAF missions "over islands, deserts, high plateaus, networks of rivers, mountains and forests and under complicated topographical and meteorological conditions" without mentioning maritime operations.

37 Novichkov, "Russia Delivers Eight Anti-sub Helicopters to China," ITAR-TASS (10 December 1999), in FBIS FTS19991210000351, lists three Ka-27 and five Ka-28 aircraft in this sale.

38 Any vessel can roll mines into the water, but laying an effective minefield requires exact placement of each and every mine, both to achieve maximum effect and to prevent it from sinking ships indiscriminantly.

39 *Jane's,* 134–5, lists an additional thirteen T-43s and forty-six remote-operated minesweeping boats in the reserve force, but their readiness is problematical.

40 Michael A.Glosny, "Mines Against Taiwan: A Military Analysis of a PRC Blockade," *Breakthroughs,* vol. XII, no. 1 (Cambridge MA: Massachusetts Institute of Technology Security Studies Program, spring 2003), 33, suggests the 100,000 figure, but my experience with US Navy mine warfare and inquiries at the unclassified level among various US intelligence agencies, while inconclusive, indicate a much lower number of modern mines, perhaps less than 10,000. Glosny's uses a classic mine warfare analytical framework in his excellent article and reaches logical conclusions. Also see Zhang Lihong, "China Enhances

the Production of the Rocket Propelled Mines," *Kanwa News,* no. 520 (20 May 1999), http://www.kanwa.com.

41 *Tripoli* was serving as support ship for US mine warfare forces in the Gulf. *Princeton* detonated two pressure-fused, Italian designed Manta mines, which have a plastic hull and lay on the sea bottom.

42 During World War I, the Allies laid over 70,263 mines in their effort to block the German U-boats' egress through the North Sea [Paul G.Halpern, *A Naval History of World War I* (Annapolis MD: Naval Institute Press, 1994), 440]; in World War II, the United States laid more than 12,000 mines in Japanese waters in 1945 alone [John Ray Skates, *The Invasion of Japan: Alternative to the Bomb* (Columbia SC: University of South Carolina Press, 1994), 50].

43 Glosny, "Mines Against Taiwan," 31, 32.

44 McVadon, "Systems Integration in China's People's Liberation Army," in James R.Lilley and David Shambaugh, *China's Military Faces the Future,* 227, describes the Luhu-class as "incorporating more than forty advanced foreign technologies."

45 "Unswervingly Take the Road of Strengthening Armaments With Science and Technology," *Jiefangjun Bao* (3 July 1999), 1, in FBIS CHI-1999–0712, which admitted that "supply and maintenance can directly affect the generation and development of battle readiness," especially for high-technology weapons systems.

46 Ding Jianwei and Yan Jinjiu, "Nanjing Theater Exercises Unified Command over Logistics Services of Three Armed Services to Effect Joint Support," *Jiefangjun Bao* (8 January 1996), in FBIS CHI-1996–018. The best collection of work in English on PLA logistics is the papers presented at the December 2003 conference hosted by RAND and the Center for Naval Analyses on "PLA Logistics and Sustainment," at Airlie House in Warrenton, Virginia. These papers were published in late 2004.

47 *Jane's,* 137.

48 Ibid., 141.

49 China is a net energy (and a net petroleum) importer: see Bernard D.Cole, *Oil for the Lamps of China: Beijings 21st Century Search for Energy,* McNair Paper no. 67 (Washington DC: NDU Press, 2003); Wayne R.Hugar, "How Far Will the Dragon Swim?", US Naval Institute Proceedings (March 1999), 48, discusses China's reliance on sea transportation for its oil imports, and notes in "The Sea Dragon Network: Implications of the International Expansion of China's Maritime Shipping Industry" (Monterey CA: Master's thesis, Naval Postgraduate School, 1998), 27, that "China imports five percent of its grain consumption, or 75 million metric tons…primarily from Australia, Argentina, Canada, and the United States." John Downing, "China's Evolving Maritime Strategy, Part 1," *Jane's Intelligence Review* (March 1996), 129–33, discusses China's need to import food, resulting in part by the low proportion of its land (less than 10 percent) that is arable.

50 Hugar, "The Sea Dragon Network," discusses the rapidly growing, capitalistic PRC merchant marine.

51 China State Shipbuilding Corp. General Manager Chen Xiaojin, citing State Council policy, in "Titanic Shipyard Launched in Shanghai", *China Daily* (29 December 2003), at http://www1.chinadaily.com.cn/en/doc/2003–12/29/content_294134.htm

52 Chung Chien, Taiwan National Defense University, quoted in Jackie Chen, "Sea Change: ROC Naval Modernization and the Defense of Taiwan," 2, at http://www.Globalsecurity.Org/wmd/library/news/Taiwan/1997/971100-sinorama-

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53 Hugar, "The Sea Dragon Network," 85.

54 John H.Noer, with David Gregory, *Chokepoints: Maritime Economic Concerns in Southeast Asia* (Washington DC: Institute for National Strategic Studies in cooperation with the Center for Naval Analyses, National Defense University Press, 1996), 18, 64.

55 Willy Wo-Lap Lam, "PLA Weapons To Be Upgraded By 2010," *South China Morning Post* (15 December 1999). Cao was head of the General Armaments Department at the time.

56 Si Yanwen and Chen Wanjun, "Navy to Develop More High-tech Equipment," *Jiefangjun Bao* (10 June 1999), in FBIS-CHI-1999–0611. Similar statements were attributed to Jiang Zemin in Pamela Pun, "PLA Told to Speed Weapons Research," *Hong Kong Standard* (6 November 1999).

57 Coastal waters are particularly difficult for ASW, due to shallowness, increased ship traffic, marine life, and temperature gradients.

58 Author's conversations with PLAN and Taiwan naval officers.

59 Author's visits to *Jianghu, Jiangwei,* and *Luhu*-class ships 1993–2002. Also see McVadon, "Systems Integration," 217–44.

60 See the Taipei press article at http://pub165.ezboard.com/fwarshipsldiscussion-boardsfrm16.showMessage?topicID=93 for the report that "Over US$300 million will also be spent expanding Tsoying naval base; in interim, ROCN will lease piers at commercial facility in Kaohsiung port."

61 See, for instance, Paul H.B.Godwin, "The Use of Military Force Against Taiwan: Potential PRC Scenarios," in Parris H.Chang and Martin L.Lasater (eds) *If China Crosses the Taiwan Strait: The International Response* (Cranbury NJ: University Press of America, 1993); Bitzinger and Gill, i, ii; Kim Viner, "Potential Military Solutions for the 'Taiwan Question'," *Asian Affairs,* vol. 24, no. 3 (fall 1997), 180–9; Alexander Huang, "Taiwan's View of Military Balance and the Challenge It Presents," in James R.Lilley and Chuck Downs (eds) *Crisis in the Taiwan Strait* (Washington DC: National Defense University Press in cooperation with the American Enterprise Institute, 1997), 283–4; and Martin Edmonds and Michael M.Tsai (eds) *Taiwan's Maritime Security* (New York: RoutledgeCurzon, 2003).

62 See Chapter 7.

63 LTG Mi Zhenyu, quoted in "General Says Massive Forces Are Not Necessary for Attacking Taiwan," *Ming Pao* (12 March 2000), B7, in FBIS CPP20000313000028.

64 For instance, see Zheng Yu, "Using Force Against Taiwan," *Wen Wei Po* (Hong Kong) 25 September 2000, in FBIS CPP20000925000059, 1; Xiao Nui, "If War Starts in the Taiwan Seas, Where will the US Carriers Assemble?," at http://military.china.com/zh_ch/critical3/27/20010823/10087071.html; Cai Wei, "US Carriers Are Not Myths; at Present There Are at Least Three Ways of Dealing with Them," *Huanqiu Shibao* (Beijing) 22 June 2001, 13, at http://www.peopledaily.com.cn/GB/paper68/; and Dong Hua, "Aircraft Carrier's Natural Enemy: Anti-ship Missiles," *Junshi Wenzhai* (Beijing) 1 July 2002, 50–2, in FBIS-CPP20020719000185.

65 Zheng Yu, "Using Force Against Taiwan," *Wen Wei Po* (Hong Kong) 25 September 2000, in FBIS CPP20000925000059, 5.

66 This issue is addressed by John W.Garver, "The [former] Coming War with America," *Journal of Contemporary China,* vol. 12, no. 36 (August 2003), 575–85.

67 Li Xin, "Are Taiwan's Warships Weapons or Ornaments?" Taiwan de Junbei (Beijing) 1 July 1997, 37, in FBIS CHI-98–037; Li Wei, "The Taiwan Strait Has Become Like a Mere Pond,"

Taiwan de Junbei (Beijing) 1 July 1997, 34–6, in FBIS-CHI-98–037; and Liu Jun, "The Operational Capability of Taiwan's Main Warships," *Bingqi Zhishi* (Beijing), no. 4 (4 April 2000) in FBIS CPP20000417000147, offer interesting descriptions of the possible theater of maritime operations.

68 Christopher D.Yung, "People's War at Sea: Chinese Naval Power in the Twenty-First Century," CRM 95–214 (Alexandria VA: Center for Naval Analyses, March 1996), provides a cogent analysis of these three paths.

69 Michael D.Swaine, "Chinese Military Modernization and Asia-Pacific Security," paper presented at the Aspen Institute's Second Conference on US-China Relations, Washington DC, March 1999, 36.

70 Yung, 37–8; Andrew N.D.Yang, "From a Navy in Blue Towards a Blue Water Navy: Shaping PLA Navy Officer Corps (1950–1999)," paper prepared for the CNA conference on the "The PLA Navy: Past, Present and Future Prospects," Washington DC, April 2000, also notes China's poor record in reverse-engineering combatant ships.

71 The best effort to date to explain the PLA budget is in David Shambaugh, *Modernizing China's Military: Progress, Problems, and Prospects,* (Berkeley CA: University of California Press, 2002); also see Bitzinger and Gill, 15.

72 Author's interviews with Taiwan naval officers, 1999–2003; Taiwan Minister of Defense Tang Yao-ming, quoted in Huanqiu Shibao, "An Attempt to Seize Control of the Taiwan Strait Through Arms Purchases," *Guangzhou Ribao* (23 August 2002), in FBIS CPP20020827000027.

73 "Report on Military Maneuvers in Accordance With the Instructions of the Higher Authorities," *Ming Pao* (30 October 1999), A14, in FBIS CHI-1999–1031.

74 For instance, see Victor Mallet and Kathrin Hille, "Taiwan Renews Its Warnings to China," *Financial Times* (London) 17 December 2003, in FBIS EUP20031219000112.

75 US Secretary of Defense, "Report to Congress Pursuant to the FY99 Appropriations Bill on the Security Situation in the Taiwan Strait" (1 February 1999), 26, at http://www.defenselink.miypubs/twStrait_02261999.html; and US Secretary of Defense, "Report to Congress Pursuant to the FY2000 Appropriations Bill on the Military Power of the PRC," (28 July 2003), 46, 48, at http://www.nautilus.org/pub/ftp/napsnet/special_reports/d20020712china.pdf

8
AMPHIBIOUS CAPABILITIES

Bernard D.Cole and Valérie Niquet

The geography of the Taiwan Strait area is quite distinctive, and quite unwelcoming to amphibious operations. This area may be described as a rough parallelogram, extending eastward from the Chinese coast approximately 600 nautical miles (nm), with each west-east boundary "anchored" on the coast at a point approximately 200 nautical miles north and south, respectively of the middle of Taiwan. While this area is large, it is not so large as to prohibit air cover from bases on either the mainland or Taiwan, a point to which we shall return to later.

The Strait itself is narrow, with a width of 90–105 nautical miles. It is relatively shallow, marked by the Taiwan Banks, an extensive shoal area along Taiwan's southwestern to western coastline. The water depth in this area is continuously changing, with depths reported as shallow as 27 ft. The Strait also has strong currents, with 15–20 knots being the norm during spring and early summer. Winds can also often increase unpredictably to 25 knots and higher, with an associated increase in the height of the seas. In addition, rain showers are frequent during the summer, particularly along the Taiwanese coast.

Taiwan's coast is also the scene of dramatic tidal surges, ranging from 9.2 to 12.5 ft, and reaching as high as 16 ft on the China coast. Sudden and frequently violent weather changes often occur, making navigation uncertain. There are numerous shipwrecks on the ocean floor and the additional presence of heavy sea life makes for a "noisy" ocean environment, very unfriendly to both submarine and anti-submarine warfare (ASW) operations.[1]

The remaining maritime area described above is marked by the Luzon Strait to the south, the confining presence of the Ruckus Islands to the north, with only the area east of Taiwan offering a truly open ocean, "blue water" arena. The primary shipping lane through the Luzon Strait, the

Bashi Channel, is just 53 nm wide and characteristically has 20–25 knot winds and 7–9 ft seas during the October to March period, which limits the utility of small landing craft and patrol boats. The remainder of the year is characterized by 15–20 knot winds and 3–4 ft seas.

The ocean's bottom topography is also significant, both to forces conducting an amphibious assault and to those supporting the movement of the amphibious force to the assault area. Any plan to conduct an assault on Taiwan from the sea using positive displacement vessels would have to work around the extreme paucity of suitable beaches upon which to land troops and equipment. An ideal beach for an amphibious assault possesses specific characteristics, including:

- firm sand, to support heavy vehicles;
- good weather, quiet currents, and low winds, to ease the passage of the assault force;
- calm surf conditions, to ease the transfer of troops to landing craft and their passage to the beach;
- a shallow beach gradient, to ease the transition from sea to land of amphibious vehicles and bow ramp-equipped landing craft; and
- a ready egress to the hinterland, to reduce the risk to the assault force of being confined to the beach.

None of these conditions characterize the beaches of Taiwan, on either its west or east coast. Instead, those coasts are marked by mountainous terrain in the east and mud flats in the west. Furthermore, not only are hydrographic conditions in the Taiwan Strait usually less than acceptable for amphibious operations, but changes in these conditions are often unpredictable. Finally, Taiwan's east coast is marked by a steep beach gradient and an ocean bottom that falls off rapidly.

Hydrographic conditions, including the sea bottom topography, are also equally important for submarine and anti-submarine warfare, which would play a major role in naval operations against and in defense of an amphibious assault on Taiwan. Conditions for submerged warfare in the Taiwan Strait are extremely problematical for both sides, but favor the submarine. The Strait's waters are marked, in addition to the

characteristics noted above, by severe temperature gradients, areas of relatively shallow water, and are extremely noisy, both from the ambient noise of sea life and water movement, and the ship-generated noise of the thousands of fishing and coastal craft that ply the Strait.

Submarine warfare is enhanced, and ASW hindered, by the steep gradient that marks the ocean bottom immediately off not just Taiwan's east coast, but also seaward of the island's two main ports of Keelung and Kaohsiung. This characteristic will facilitate the operation of submarines, which would have more sea room (depth) in which to maneuver, by expanding the area of concern to ASW forces. This steep gradient will also make mine warfare more of a challenge, both for laying and neutralizing mines, since these weapons generally offer more flexibility and effectiveness in shallow water.[2]

China's airborne forces consist of the 15th Airborne Corps and its subordinate 43rd, 44th, and 45th Airborne Divisions, all of which are an integral part of the People's Liberation Army Air Force (PLAAF). Each is supported by a dedicated and collocated troop transport regiment from the 13th Transport Division. Both the 15th Airborne Corps and the 13th Transport Division are strategic reserve units that straddle the Jinan and Guangzhou Military Regions. While in the past China has used its airborne forces primarily for internal security missions, more recently China has designated the 15th Airborne Corps as a strategic rapid reaction unit for deployment during national contingencies. However, lack of sufficient heavy airlift, and other limitations, has kept this unit from having a robust force projection capability, although in a crisis civil airlift could provide support as well.

China has continued to improve its capabilities to conduct amphibious and airborne operations within the region. It has two brigades of marine forces, based with the South Sea Fleet near Zhanjiang, which is equipped with amphibious tanks and armored personnel carriers for an amphibious landing, and its fleet of about sixty amphibious ships has conducted modest-size training exercises in coastal regions. Although China has never conducted a fully coordinated division-scale or larger amphibious

exercise with air support and airborne operations, its amphibious force is believed to be capable of landing at least one infantry division on a beach, depending on the mix of equipment and stores for immediate re-supply. If China were to use its merchant fleet, its capacity to move forces would increase, although inadequate air defense and lack of ability and training in cross-beach movement of forces would be critical shortcomings.

China has built several air-cushion vehicles and evaluated their designs, to include training by its marine force. It is also likely that it will eventually acquire a small number of these craft for providing rapid infantry assault, although the availability of a mother ship for regional transits remains uncertain. It is most likely that these craft will need to be carried by a suitable cargo ship, amphibious vehicle landing ship, or possibly a float-on/float-off (FLO/FLO) merchant ship in order to transport them to the scene of action.

People's Liberation Army Navy (PLAN) amphibious forces[3]

China's naval force has an insufficient number of large-scale and advanced landing ships, and lacks such indispensable ship varieties as amphibious assault ships and dock landing ships. Also, its current amphibious landing capability is largely restricted to the several *Yuting* and *Yukan*-class landing ships. These are both classes of "landing ship tanks" (LSTs). The LST was developed during World War II to facilitate amphibious landings; they were designed to be grounded on a beach, after which doors open in their bows and ramps are lowered for vehicles to drive from the ship directly onto the beach. China has not built either of the other two most common amphibious ship types: a small aircraft carrier designed to launch helicopters, and a "landing ship dock" (LSD), a ship designed to carry and launch smaller landing craft from a well-deck. The PLAN's amphibious fleet provides sealift sufficient to transport approximately one infantry division. The PLAN also has hundreds of smaller landing craft, barges, and troop transports, all of which could be

Table 8.1 Amphibious ships.

Table 8.2 Yuting-class LST.

Table 8.3 Yukan-class LST.

Table 8.4 Yudeng-class LCM (essentially a smaller version of the *Yukan*-class).

Table 8.5 Yudao-class LCM.

used together with fishing boats, trawlers, and civilian merchant ships to augment the naval amphibious fleet. Shortcomings in long-range lift, logistics, and air support, however, hinder China's ability to project amphibious forces. Tables 8.1 to 8.5 above list PLANs amphibious ships.[4]

Thirteen modern landing ship tanks (LST), seven *Yukan*-class and six *Yuting*-class, which were all constructed between 1980 and 1995, form the heart of China's amphibious force. The PLAN also includes eleven smaller landing ships mechanized (LSM) of the *Yudeng, Yuhai, and Yulian*-classes. There are also four *Qiongsha*-class troop transports, each

capable of embarking 400 troops. These, however, possess neither the ramps nor the boats necessary for conducting amphibious assaults.[5] This amphibious force may be supplemented by approximately 200 small landing craft, though they are presently in reserve, inactive status.

Beijing stations its Marine Corps, two brigades totaling approximately 12,000 personnel, troop transports, and most capable amphibious ships, in its South Sea Fleet. This may indicate that the PLAN's amphibious warfare focus is more on the South China Sea than it is on Taiwan; the South Sea Fleet area of operations (AOR) also offers the best weather and terrain for training amphibious forces.

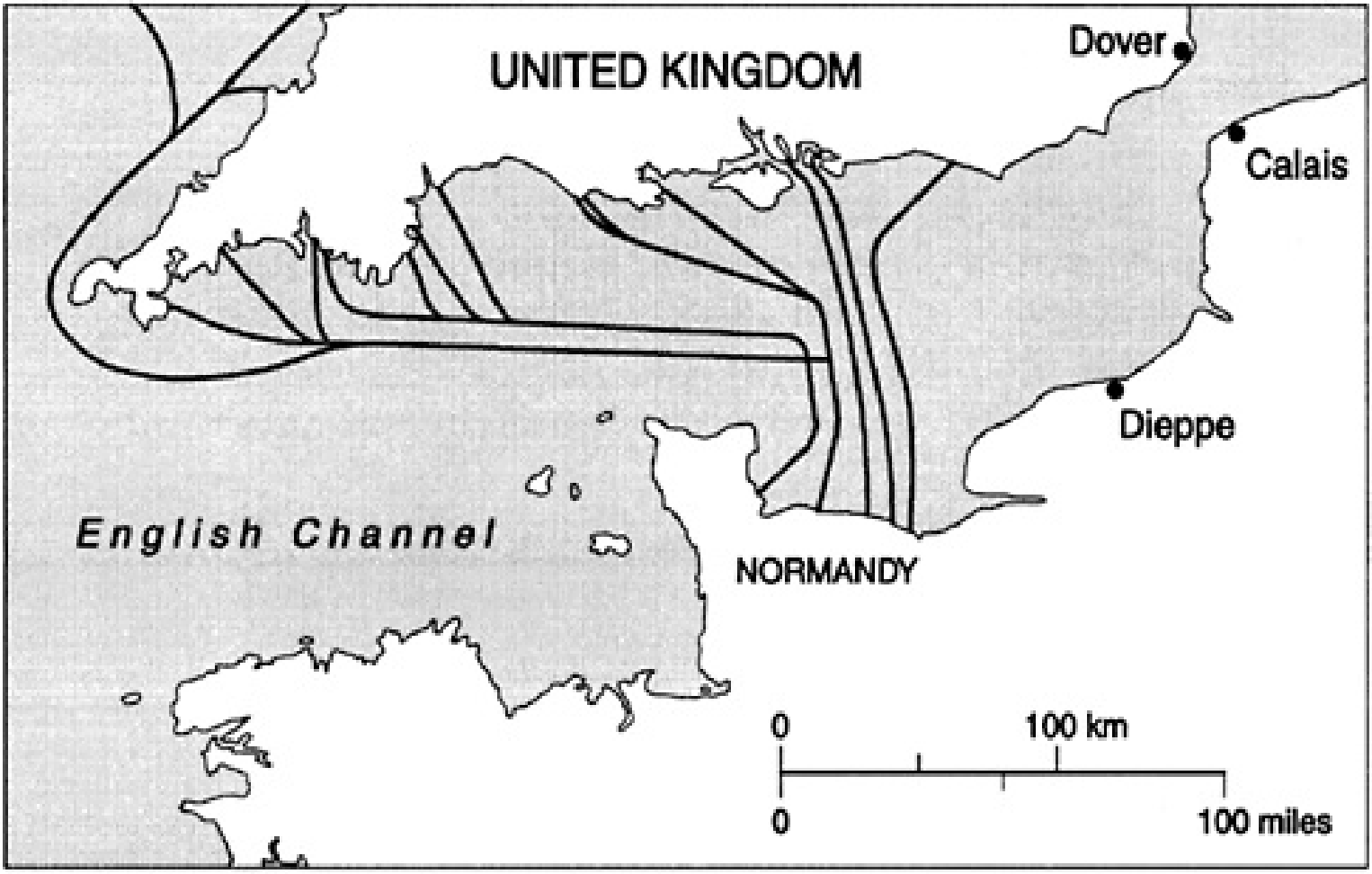
Amphibious operations pose three basic questions.[6] First, how are forces transported to the objective? As shown above, the PLAN does not possess enough ships specifically designed for amphibious operations to transport the necessary force across the Taiwan Strait. The People's Liberation Army (PLA) articles have discussed the navy's program for refitting merchant ships for use as amphibious lift. In addition, since 1994 civilian vessels have participated in amphibious exercises.[7] History, however, has repeatedly demonstrated the difficulties of organizing and controlling a nation's merchant fleet for military operations; the Napoleonic wars, the American Civil War, the last century's two world wars, and US efforts in Vietnam are examples.[8]

Second, how is control of the sea gained sufficiently to ensure the amphibious force's safety during transit? Here, China would have to employ its surface fleet and shore-based aircraft to protect the invasion forces at sea, and to ensure and provide the force's logistical support after it lands. Mine warfare could also play a significant role in answering this question.

Third, how is control of the air gained sufficiently to ensure both the safe transport of the invasion force and its defense after the initial landing? As explained in Chapter 6 of this book, the PLAN must be able to call upon the joint efforts of both the naval aviation and PLAAF units, as well as shore-based ballistic and cruise missiles, before it can stand any chance of doing so.

To illustrate how difficult the mounting of a modern amphibious operation across the Taiwan Strait would be, it is useful to compare it with the largest opposed amphibious landing ever mounted, in World War II (WWII) Normandy in June 1944.[9]

The planning conducted by the armed forces in 1943 and 1944 to invade the Japanese-occupied island of Formosa, as Taiwan was then called, is another WWII precedent illustrating any attempt to conduct an amphibious assault against Taiwan. This plan for "Operation Causeway" called for 450,000 troops.[10] While modern equipment and amphibious techniques



Assault force	Defending force
176,000 amphibious troops Three airborne divisions	~50,000 troops
10,000 aircraft	400 aircraft
136 warships 3,000 landing craft 2,000 other ships	No naval presence

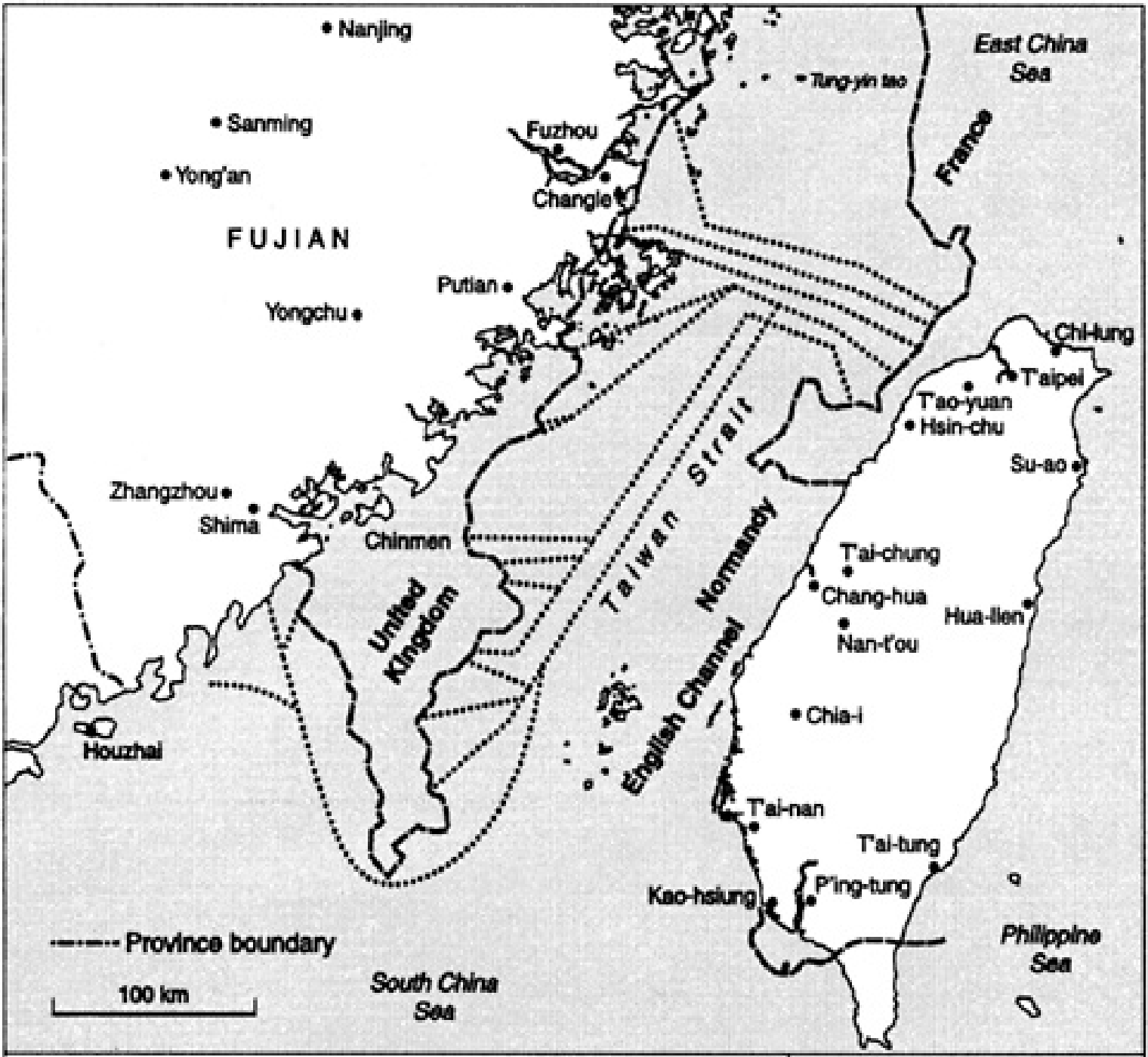
Figure 8.1 The Normandy landing.
(Source: Federation of American Scientists)

would no doubt significantly reduce that number of troops, amphibious operational doctrines still recommend that the attacker possess a 5:1 advantage in troops making the assault over the defenders.[11]

China has, for the past decade, been credited with enough naval

amphibious shipping to embark one full division, plus special units of approximately 14,000 troops. However, this accounts for only for PLAN vessels specifically designed for amphibious transport; the further employment of other navy vessels and/or civilian shipping would significantly increase this number by a factor of three.

At present, China is building amphibious ships for the PLAN, but at a moderate rate; there is little evidence that Beijing has launched a ship-



Assault force	Defending force
15,000 amphibious troops Three airborne divisions	220,000 troops
3,300 combat aircraft	490 aircraft
60 warships ~300 landing craft	40 warships

Figure 8.2: Superimposing the Normandy landing across the Taiwan Strait (Source: Federation of American Scientists)

building program to dramatically increase the PLA's amphibious

operational capability. Although this argues against the option of a classic amphibious assault against Taiwan, we will investigate other amphibious options below.

An analysis of Chinese intentions is much more complex than the mere counting of ships and their troop-carrying capability. Although there is a history of amphibious operations in China—most notably during the island campaigns of 1949–54—it is not an extensive history, and it has only been during the past decade that the PLAN has been devoting significant resources and training to the development of a joint amphibious warfare doctrine, equipment, and expertise.

Most basic to the employment of amphibious operations is the objective. In this case, we can assume that objective to be the subjugation of the Taipei government to the extent that it agrees to reunification with the mainland on Beijing's terms. Such a capitulation may result from outright military defeat or, more likely, from a decision by Taiwanese leaders that the cost of resistance (with or without US assistance) outweighs the benefits of continued independence.

A second benchmark is based upon the number of Chinese troops that would have to land on Taiwan to win the battle on the beach. As stated previously, historically the US amphibious doctrine has stipulated that the assaulting force should outnumber the defending force by a factor of five to one. Taiwan's army numbers of approximately 220,000 troops on active duty are divided into three field armies and an additional 3,000,000 in the active and inactive reserves. Approximately 80 percent of the active duty personnel— 176,000—are stationed on Taiwan, but probably no more than 100,000 of these are combat troops. Not all of these could be positioned to oppose a PLA assault, but if we assume one fourth were so positioned, the 5:1 doctrine would require a PLA assault force of a minimum 125,000. This number would include only those troops required to effect a successful landing against *dedicated* Taiwanese resistance; it does not take into account the additional number required to exploit that landing and to conquer the island.

The conquering/occupying of Taiwan, on the other hand, would be a problem of a very different magnitude. The island's topography, and the

population density in the crucial north and south parts of Taiwan could, with a dedicated and resistant populace, result in a campaign that was unwinnable in military terms, despite the possibility of a physical occupation of major cities. This, of course, brings the discussion into the question of will, of the dedication of Taiwan's military and civilian population to resist even when faced with seemingly overwhelming numbers of assailants.

"Will," however, is not a factor susceptible to measurable judgment; policy makers must maximize the number of indicators available from more concrete data. Therefore, given the uncertainties of geography and national intent on both sides of the Strait, such indicators must be approached cautiously when considering the viability of a PLA amphibious assault on Taiwan.

Without US military intervention, China clearly possesses the manpower necessary to invest Taiwan to the point of forcing Taipei to seek surcease, which by definition means abandoning its state of *de facto* independence. This outcome, however, would be cast into very serious doubt by the presence of a dedicated Taiwanese military and civilian resistance. As will be discussed below, the actions of Taiwan's government make the existence of such a state of dedication doubtful.

As for the assessable parameters of Beijing's amphibious option *vis-à-vis* Taiwan, on paper China possesses the necessary landing ships to conduct a massive landing operation against Taiwan, particularly if one includes a large fishing boats flotilla and the growing capacity of the civilian merchant fleet of approximately 1,900 ships exceeding 1,000 tons.

Created in 1953, the PLA Marine Corps was dissolved in 1957 and then reorganized in 1979. Each of its brigades is intended to be self-sufficient, and comprised of mechanized infantry battalions, a light tank battalion, artillery battalion, and units for anti-tank warfare, reconnaissance, communications, and chemical warfare.

The brigades train as 'fist' units, intended as mobile, quick-response formations. Their training exercises appear to be focused on amphibious assault and/or defense, and appear to be based on their primary missions

of defending and seizing the South China Sea territories claimed/occupied by China, as well as being prepared to assault Taiwan and other insular territories claimed by Beijing.

At least three PLA army divisions have also conducted extensive amphibious training during the past decade, particularly since the Taiwan Strait crisis of 1995–6. As these divisions are stationed in the Nanjing and Guangzhou MRs, it suggests that they are intended for Taiwan operations.[12] Moreover, the PLA's determination to expand its amphibious assault capabilities is signified by the primary mission of these divisions and their apparent focus on amphibious operations.[13]

The PLA also possesses the capability to assault Taiwan via airlift, through both vertical envelopment with helicopters and airborne troops, and via transport aircraft. Although these would not provide a primary means of assault, they may be utilized in conjunction with other means. For instance, as examined in detail in Chapter 5, special operations forces (SOF) may infiltrate Taiwan through commercial transportation, the seizure of an airfield, be reinforced by airborne troops or airlifted forces, and then move against Taiwan infrastructure objectives. If implemented successfully such a development might indeed catch Taiwan's defense forces out of position and unprepared. A variation on this scenario would involve infiltrated PLA SOF seizing port facilities, into which nominally commercial ships would land PLA troops, to move against targets in the capital city, military command, and control facilities. Furthermore, the PLA could implement a classic amphibious assault in conjunction with one of the above scenarios, either as a diversion, or to reinforce its forces on the island.

According to Michael O'Hanlon, with traditional aircraft, the theoretical airlift capability of China should be approximately 8,000 men,[14] but additional purchases of Russian-produced Il–76 transport aircraft are in progress, and will ultimately increase China's airlift capability.[15] In this case the PLA may well train additional airborne troops to supplement the 15th Airborne Corps, the only unit available for the above-mentioned mission at the moment.

PLA shortfalls

Despite its overwhelming numbers, its growing arsenal of modern equipment, and its ability to pick the time, place, and scenario for launching military operations against Taiwan, the PLA itself also faces significant problems. First, although it has conducted almost a decade's worth of joint warfare training, from commanding generals to new privates the PLA is made up of an almost entirely untested military force. As the cauldron of war is possibly the most difficult testing ground, and the PLA's actual performance in an assault, against an island defended by inhabitants fighting for homes and families, cannot be confidently predicted.

Second, the PLA has continued to work on the serious shortfall of the integration of its various systems and equipment. Effective integration creates an effectiveness level greater than the sum of its parts, and while the PLA recognizes this need, its degree of attainment remains uncertain.

Third, the PLA has yet to demonstrate the level of effective command and control (C2) required for twenty-first-century warfare. Operating on several levels, modern C2 between senior civilian and military leaders, between senior and junior military officers and their units, and between operational units on the battlefield, is necessary for effective joint warfare and an integrated military effort.

Last, China does not have demonstrated ability to support a force in combat across even the Taiwan Strait's relatively narrow 100 nautical miles width. While the PLA has also been devoting additional resources and training to logistics, this is another area that has remained untested in combat. Tied to this issue of logistic support, is the question of the PLA's ability to maintain control of the air and the sea in the Strait before, during, and following an assault on the island.

Taiwan opposition

The most problematic factor for a PLA attempt to conduct an amphibious assault on Taiwan is the opposition of the island's military and civilian populace. The ongoing Iraq war is but the latest example, in the history of warfare, of the difficulty in subduing a dedicated civilian population determined to rule itself. That said, there is doubt as to whether this factor would apply to Taiwan, or whether the military and civilian personnel would not assemble and project the will to resist an assault. Unfortunately, by strict military numbers, it would appear that Taiwan would be overwhelmed by the PLA..

This conclusion is founded in Taiwan's behaviour, or lack of action, in following China in the upgrading and improvement of its military capabilities. Since 2001 the United States has been more willing, than at any time since 1979, to arm Taiwan with the most modern weapons. The Taipei government, however, has not allocated the necessary resources, or developed the necessary policies to take full advantage of US generosity. In fact, very little has been purchased from the spring 2001 "shopping list" offered to Taiwan. Furthermore, obligatory military service for Taiwan draftees has been shortened to twenty months, the defense budget has been cut, and since the March 2004 presidential election Taipei seems to take the Chinese threat even less seriously. These troubling developments call into question the role that the United States would play in the event of a Chinese amphibious assault on Taiwan. It is almost inconceivable that any American administration, of either political party, would acquiesce to China's military conquest of Taiwan, provided Taipei seriously prepared to resist an assault and accorded Washington with the understanding and respect due from a very small ally to the world's only superpower. In the final analysis, the American government would ultimately choose a policy path best suited to benefit the United States. Major military intervention in support of a deliberately unprepared Taiwan should not be assumed to be guaranteed.

Chinese preparation

Is China trying to increase its amphibious capability against Taiwan in a major way? The answer to this question is a qualified “yes.” China is indeed building more amphibious ships, as well as naval combatants in general, than at any other time in its history.[16] Beijing has not, however, reordered its national priorities in such a way as to indicate that a firm date for military action against Taiwan has been selected. In fact, as discussed in Chapter 7, naval modernization continues at a moderate pace in China.

Amphibious operations in Chinese strategic thinking

Although amphibious operations have been employed by the PLA since the campaigns of the 1950s, to seize various island territories off the mainland coast, this has not raised their utility against Taiwan. Beijing, therefore, would most certainly prefer a non-military, non-destructive process for reuniting the island with the mainland. Any amphibious operation opposed by the Taiwan military would result in very significant PLA losses in personnel and materiel, as well as damage to the island's infrastructure. In addition, an operation opposed by the Taiwanese people would greatly multiply these losses, and would likely leave China in possession of a ravaged, hate-torn island.

Amphibious operations against Taiwan may even be construed as proof of the failure of China's preference to reunite Taiwan by persuasion. Even though the PLA currently possesses the capability to launch an assault on Taiwan, utilizing perhaps 100,000 troops on the sea and through the air, if Taiwan was able to resist effectively, the success of such an assault would be very much in doubt. If the strength and ability of Taiwan's leaders to avoid the "shock and awe" of such an assault were sufficient, or if the United States were to intervene on a large scale, the PLA assault would most certainly fail.

Notes

1 Interviews with US Navy meteorological officers, July 1999; data found at http://199.208.205.46/products/MWP/Taiwanst/812clim.htm

2 "Shallow water" is defined, for this discussion of subsurface warfare, as that less than 600 fathoms in depth, one fathom equaling six feet.

3 Federation of American Scientists website: http://www.fas.org/man/dod-101/sys/ship/row/plan/

4 Table information comes from A.D.Baker, *Combat Fleets of the World, 2002–2003* (Annapolis MD: Naval Institute Press, 2003); and *Jane's Fighting Ships, 2003–2004* (London: Jane's Information Group, 2003). An LCM (landing craft mechanized) refers to a similar vessel, but one that is usually smaller than an LST.

5 Two additional Qiongshas have been converted to hospital ships.

6 I am indebted to Colonel Theodore L.Gatchel, USMC (Retd), for noting these points.

7 Su Hongyu, "How to Cross the Taiwan Strait?", *Jianchuan Zhishi* (Beijing), 19 July 1999, in FBIS OW2507035499. "PLA Refits Merchant Ships in Reserve," *Ming Pao* (Hong Kong), 2 November 1999, B14, in FBIS CHI-99–1102, reports that these ships are also being outfitted to augment the PLAN in warfare missions. Also see Tai-Ming Cheung, "Reforming the Dragon's Tail: Chinese Military Logistics in the Era of High-Technology Warfare and Market Economics," in James R.Lilley and David Shambaugh (eds) *China's Military Faces the Future* (Armonk NY: M.E.Sharpe, 1999), 237; Wan Xiaoyun, "Problems and Solutions for War Zone-wide Mobilization Under High-tech Conditions," *Zhanyi Houwin,* 705–6, cited in Jianxiang Bi, "Managing Taiwan Operations in the Twenty-first Century: Issues and Options," *US Naval War College Review,* vol. LII, no. 4, (autumn 1999), 12; and "Fujian mobilizes Civilian Vessels in Drills," *Fuzhou Fujian Ribao* (16 July 1999), 2, in FBIS CHI-99–0802 for a report or an exercise in which "more than 100 civilian vessels" conducted "mobilization and drills."

8 John Prados, unpublished paper presented at Annual Meeting of the Society of Historians of American Foreign Relations, Poughkeepsie NY, June 1992, discussed the Vietnam case.

9 The clearest demonstration of the United States' awesome military power during World War II is that the massive amphibious invasion of the Marianas Islands was also conducted in June 1944, on the other side of the world from Normandy. The Marianas operation was almost as massive as that into France, but since it was launched across many hundreds of miles of ocean, the D-Day assault against Normandy is more illustrative for our purposes.

10 "Index of Operational and Code Names," US Army, Center for Military History, http://www.army.mil/cmh-pg/reference/code.htm

11 Taiwan also maintains a significant amphibious force, nominally to keep its offshore islands supplied. The navy includes two old landing ships dock (LSDs) and ten LSTs, all acquired from the United States. One of the LSDs and eight of the LSTs date from World War II and absorb a disproportionate share of the navy's maintenance funds and personnel. There are also twenty-eight LSMs and hundreds of smaller landing craft of various capabilities and seaworthiness.

12 See, for instance, Kuo Nai-jih, "Percentage of Hits of Ship-carried Artillery of the Communist Troops Reaches 90 percent," *Lien-Ho Pao,* Taipei (23 August 2001), in FBIS CPP20010823000121; Zeng Shuwang, "PLA to Conduct another Large-scale, Tri-service Exercise along Southeast Coast of China," *Wen Wei Po,* Hong Kong (17 May 2002), in FBIS

CPP20020517000010; Dai Zhixin, Feng Weihua, and Yang Xiaogang, "Making a Comeback After 'Defeat'—Account of how a Certain Water Transport Group Drills Hard on Support Capabilities Aiming at Actual Battles," *Jiefangjun Bao,* 6 February 2002, 2, in FBIS CPP20020206000059; Zhou Yushun, "Offshore Refueling Drill in the Absence of Pier," *Jiefangjun Bao,* Beijing (17 September 2003), in FBIS CPP20030918000068.

13 Cole's conversation with senior PLA officers.

14 Michael O'Hanlon, "Can China Conquer Taiwan?," *International Security,* fall 2000, 62.

15 "China's First Large Aircraft to Fly by 2018," *China Daily,* at http://www.chinadaily.com.cn/english/doc/2004–03/17/content_315673.htm; "China Aviation Industry Corporation II Reinforces Joint Production Of Transport Aircraft With The Ukraine Antonov," *Xinhua* (17 September 2003), in Chinese. Translated by Asian Studies Detachment.

16 Cole's conversation with a senior intelligence analyst.

9
INDUSTRIAL, TECHNOLOGICAL, ECONOMIC AND INFRASTRUCTURE CAPACITY

Tai Ming Cheung

Introduction

In the event of a military conflict across the Taiwan Strait, the ability of the People's Liberation Army (PLA) to successfully wage a military campaign against the island, and any other intervening powers, will depend crucially on the strategic support that it will receive from the civilian population. The Chinese military establishment is heavily reliant upon the civilian economic, industrial, technological, infrastructural, and population base to provide it with vital logistical, transport, communications and other resources required to fight a modern air-land-sea war beyond its continental borders.

An analysis of the PLA's capacity to undertake a military campaign against Taiwan, especially if it is a protracted affair, will need to take into consideration civilian resources and the necessary preparations that military and civilian authorities must have engaged in to allow for their mobilization and use. For example, how much assistance does the PLA need from the civilian sector to transport the sufficient number of troops and equipment across the Taiwan Strait in an invasion? To what extent will the armed forces need to rely upon civilian system logistics supplies to sustain their operations?

This chapter addresses the question of whether the People's Republic of China (PRC) has the industrial, technological, economic, and infrastructure capabilities to support a military campaign in the Taiwan Strait and if so, what is the nature of such a capacity, both in peacetime and wartime? Furthermore, how is this linked to both the civilian economy and the military establishment? A number of key issues to be discussed include:

- The reform, establishment, and effectiveness of a new national defense mobilization system that has been implemented since the early 1990s.
- The nature and scope of the national civilian support base and defense mobilization system.
- The defense mobilization system and the civilian support base in the Nanjing Military Region.

- Military contingencies in the Taiwan Strait and the role of the civilian support base.
- Chinese military strategy against Taiwan and the role of the civilian support base.

Although the military reserve and militia systems are important components of the civilian defense mobilization apparatus, they will not be examined in detail as this chapter is primarily focused on the economic and infrastructural pillars of the civilian support base and defense mobilization systems.[1]

Establishment of a defense mobilization system

Since the early 1990s, the national defense mobilization system has been extensively restructured to adapt to sweeping changes in the country's economic, social and strategic situation, as well as organizational, manpower and other reforms in the military establishment.[2] A key step was the November 1994 establishment of a State National Defense Mobilization Committee (SNDMC). This organ reports both to the State Council and Party Central Military Commission, and has subordinate organs across the country down to the county-level. It coordinates with other government, party and military organizations to draw up plans for its inclusion into the country's five-year and long-term development plans. Its provincial and local defense mobilization committees are also required to liaise, draw up and implement defense mobilization plans with provincial government departments and military regions.

The SNDMC is comprised of a number of offices including the State People's Armed Mobilization Office, the State Economic Mobilization Office, the State People's Anti-Air Defense Office, and the State Transportation War Preparedness Office. As many of these offices were previously scattered across different government agencies, the creation of the SNDMC was intended to centralize mobilization work,[3] and pro-actively incorporate these requirements into the country's economic and infrastructure planning process.

The SNDMCs top leadership is comprised primarily of senior officers within the PLA bureaucracy. Defense Minister and Central Military Commission Vice-Chairman General Chi Haotian was the executive vice-chairman of the SNDMC until his retirement in 2003. Chi's successor, Cao Gangchuan, regularly attends defense mobilization-related activities, but he does not appear to have formally taken over the position of SNDMC chair. The secretary-general of the committee is Qian Shugen, who is a deputy chief of general staff, while the director of the SNDMC is Major-General Fan Xiaoguang, who also heads the General Staff Department's Mobilization Department.

Besides the SNDMC, there are numerous other central and local

civilian and military organizations that are involved in defense mobilization-related activities. These include People's Armed Forces Departments, which are responsible for the running of militia units, civil defense agencies, defense education offices, and joint military and civilian command centers.

At the same time that these organizational reforms were taking place, the government and PLA began to formulate and implement a legal and regulatory framework to ensure that they had the statutory powers to undertake mobilization-related operations when required. In 1995 for example, the "Defense Transportation Regulations," the "Defense Mobilization Law," and the "National Economic Mobilization Law" were promulgated, and scores of related laws and regulations have been issued since then. The most recent legislation was the drafting of regulations on civilian transportation mobilization at the end of 2003.[4]

Effectiveness of the defense mobilization system

The establishment of a defense mobilization apparatus, through the SNDMC mechanism, has proved to be the linchpin in the country's efforts to harness civilian resources and capabilities for military use in the event of war. Officials claim that it has produced major successes in a number of areas:

- A dedicated and permanent bureaucracy, at central and local levels, has been established to pro-actively coordinate and draw up detailed contingency plans for wartime and emergency mobilization.
- Civilian leaders at central and local levels have been made aware that defense mobilization, and the establishment of a civilian support base, are important national priorities.
- Detailed planning for wartime and emergency mobilization has been integrated into the development programs of central and local governments.
- Exercises are being held by a growing number of local authorities to test defense mobilization. Additionally, the system worked well when put into action on a number of occasions to deal with major natural disasters. In the summer of 1998, for example, military and civilian authorities mobilized more than four million troops and militia to assist in disaster relief operations following major flooding along the Yangtze River.[5]

Despite these successes, the establishment of the defense mobilization system has encountered a wide range of systemic problems that call into question whether the civilian base can effectively be harnessed to support military requirements in a time of war. First, while some provincial and local governments have established functioning defense mobilization systems, counterparts in other parts of the country have been reluctant to devote resources or attention to the issue. Consequently, coverage of the defense mobilization system around the country is uneven. Some military delegates to the 2002 annual session of the National People's Congress complained that local governments were not taking responsibility for

defense mobilization preparations. They said that "some key strategic places have much room for improvement in the aspect of transportation facilities… The phenomenon of perfunctory performance of duties still exists in many localities. Some people continue to have a weak sense of national defense."[6]

Second, mobilization capabilities in some areas were deemed to be of poor quality and unable to meet the increasingly high-technology needs of military units. An officer who toured a number of regions said, "I could see from my investigations that the mobilization capabilities of some units and regions are low-tech, inefficient, and outdated."[7] It was in recognition of this deficiency that Cao Gangchuan emphasized the importance of ensuring that defense mobilization should adapt to the military's changing technological requirements. In August 2003, Cao pointed out that "we must consider and plan national defense mobilization—an important part of national defense construction—within the overall context of promoting change in military affairs with Chinese characteristics, and in order to better meet the demands of winning future informatized wars."[8] The lack of qualified and technologically competent personnel is regarded as one of the main causes behind the inability of the defense mobilization system to keep up with military and technological changes.[9]

Third, the inability of the civilian defense mobilization apparatus to respond in a timely manner, in an emergency, is also a major concern. With limited budgets, many local defense mobilization organizations have been unable to acquire state-of-the-art and robust communications systems, and have not developed detailed contingency plans that focus on rapid mobilization procedures. As a PLA mobilization specialist pointed out,

> since the tempo and progress of future warfare will be fast, to control the initiative of war, we must turn our personnel's potentials into fighting strength quickly within the shortest possible time. Thus, mobilization departments at all levels must

tighten their mobilization training to improve their operating efficiency.[10]

Fourth, despite growing allocations since the mid-1990s, the funding of defense mobilization activities and further investment in critical projects, by central and local governments, falls far short of requirements. While there are no official figures or estimates for the overall amount of spending, one useful indicator of the level of official spending on defense mobilization-related activities is the allocations given by local authorities.

In 1998, defense-related expenditures by all of the country's provinces totaled RMB611 million,[11] much of which went to the militia. By 2001, this had increased to RMBl.184 billion.[12] One interesting aspect of local-level defense expenditures in 2001 was that actual spending exceeded budget plans by 40 percent, suggesting that provincial and lower-level governments were being pushed to increase allocations by more than they had originally wanted. Some of the provinces that provided the highest defense allocations in 2001 included Guangdong, Fujian and Jiangsu—some of the key provinces strategically located for any operations against Taiwan.

Although the central government's defense budget does not provide a detailed breakdown of line-item spending, one of the priorities outlined in the 2001 defense budget was for the build-up in defense reserve capabilities, including additional spending for reserve units, and for the training of militia forces.[13] In addition to the funding contained in the official defense budgets, there is likely to be further allocations from extra-budgetary sources for defense mobilization-related activities. Even though the civilian support base and defense mobilization system are seeing their allocations increasing, the actual amounts that they receive remain small.

Some areas of the country, such as the provinces and cities within the Nanjing and Guangzhou Military Regions in eastern and southern China, appear to have made major efforts to develop an effective defense

mobilization system and civilian support bases. Other less developed inland regions, however, have devoted less attention and resources to mobilization activities.

While substantial progress has been made since the early 1990s, the limited amount of resources and the uneven nature of implementation of central directives at the local level suggest that the overall state of readiness of the national defense mobilization apparatus is low. Over the past few years mobilization exercises have begun to take place, but they appear to be limited in size and frequency.

Nature and scope of the national civilian support base

The civilian support base and the defense mobilization system cover an extensive range of industries and sectors of the national economy. They include the transportation system, defense industrial complex, telecommunications network, media apparatus, logistics and distribution systems, and other sectors that may have important strategic uses in an emergency or wartime situation. Several of these sectors, including the transportation and defense industrial sectors, will be examined in detail below, as they are likely to play the most important roles in the event they are mobilized to support the military.

The commercial maritime transport system

PLA mobilization analysts have pointed out that, in the late 1990s, China officially had approximately 80,000 commercial maritime vessels, 2,000 of which were registered with the necessary authorities that could commandeer them for wartime military use. Of those registered, 65 percent, or 1,300, were ocean-going types with total tonnage of 8 million tons; another 19 percent, or 380, were coastal vessels.[14] By 2001, the size of the Chinese shipping fleet had grown to more than 230,000 vessels, with a carrying capacity of over 50 million tons. While China ranks fourth in the world, the overwhelming majority of these vessels are small inland transports.[15]

Coastal ports and inland waterway systems

By the end of 2002, the country's coastal ports had more than 3,800 berths, of which approximately 700 were deep water facilities with the capacity to handle vessels of more than 10,000 tons. The total handling capacity of coastal ports was more than 1.7 billion tons. Many of the country's busiest and largest ports are in eastern and southern China, including Shanghai (the country's busiest port in 2002 in terms of total shipping tonnage handled), Shenzhen (no. 2), Guangzhou (no. 5), Ningbo (no. 6) and Xiamen (no. 7).[16] Other important east coast ports include Wenzhou, Fuzhou, Shantou and Quanzhou. All these ports can be used to support an operation against Taiwan.

The country's inland waterways system is another important transportation network option for defense mobilization. After decades of neglect, the government has significantly renovated and built new canals, and by the end of 2002 there were 121,500 km of inland waterways. First, second, and third grade canals, which can handle vessels of more than 1,000 tons, totaled more than 8,000 km.[17] In addition, a number of river shipping channels that are considered to be strategic have been dredged and renovated to improve their access and survivability in the event of war.[18]

The national road and rail networks

The road and rail networks form the backbone of the defense mobilization transportation system. In the reform period, the expansion of the national road and rail infrastructure systems has been a key priority, resulting in the building of high-grade inter-provincial highways and high-speed inter-city rail-lines. At the end of 2002, the Ministry of Communications declared that the country had 17.6 million kilometers of roads, although only 25,000 km were classified as highways, and a further 433,244 km were rated as highgrade roads.[19] Of the country's 71,500 km of railways, at the end of 2002, only one third were double-tracked.[20]

Since the mid-1990s, and in order to ensure that their needs are incorporated into the building of new facilities that are able to meet military requirements in the event of war, road and rail construction projects have been required to consult with military authorities. This includes building road and rail routes close to military bases and linking them with local military road and rail facilities. The PLA also has its own dedicated road and rail network, much of which is located in outlying border regions.[21]

The ability of the civilian road and rail systems to support military requirements has been constrained by the lack of sufficient capacity of these networks. The rail system in particular is struggling to cope with burgeoning demand for its services. In 2003, for example, the rail freight industry could only meet approximately 60 percent of daily demand. Coastal areas are particularly affected, including the heavily congested ports of Yantai, Qingdao, Tianjin, Pudong and Lianyungang, where the rail-lines are unable to meet demand and they face long backlogs of cargo awaiting transport.[22]

The lack of separate freight and passenger lines, even on busy main line routes, has also undermined the efficiency of the rail network and led to serious bottlenecks. This situation is especially severe during peak travel periods of the approximately 120 days of spring and summer, when freight services are heavily reduced to allow for the addition of passenger transport capacity. In the event that the rail system was mobilized for

war, this would cause massive disruption to the overall transport situation. Moreover, rail authorities would require plenty of advance warning to clear blocked lines, especially to the port areas.

Another major problem to ensuring that the civilian road and rail transportation networks are able to meet defense mobilization requirements is the substantial financial costs involved, and determining who will foot the bill. During the central planning era of the 1950s till the beginning of the 1990s, the cost of modifying construction projects, in order to accommodate for defense requirements, was met primarily by the road and rail authorities. The military was able to utilize road and rail facilities at minimal costs, but in the reform era, civilian transport authorities have been increasingly reluctant to allow military units the special privileges that they had previously enjoyed, particularly because they are struggling to cope with excessive civilian demand.[23]

Military allocations for the funding of defense transport construction projects have declined sharply, in actual and percentage terms, when compared with the funding for civilian transportation projects in the reform era. Between 1971 and 1980 funds allocated to defense transportation construction projects totaled RMB960 million, or around 1.5 percent of total investment in transportation construction. This dropped to RMB167 million, or less than 0.15 percent, between 1981 and 1990, and remained at these low levels during the first half of the 1990s.[24] With greater leadership attention paid to defense mobilization since the mid-1990s, military officials were hopeful that funding for defense transportation construction could be increased to around 0.5 percent of overall investment in transportation construction, although it is unclear if this target has actually been achieved.[25]

Civilian aviation capabilities

The Chinese civilian aviation industry has experienced rapid growth during the reform era, including a major expansion in the size and quality of the airliner fleet and airport facilities. In 2002, the country's airlines had a total of 586 aircraft,[26] most of which were imported state-of-the-art airliners produced by Boeing and Airbus. There was also a small, but growing number of specialized cargo aircraft.[27]"

Military authorities have made regular use of civilian airliners to transport soldiers to outlying regions of the country during annual rotations of military units, but Taiwanese military officials believe the PLA has developed a detailed plan to use civil aircraft to transport special force units to forcibly land in Taiwan during an invasion.[28] While flying large, unarmed and slow-moving aircraft into a combat zone would appear to be a highly risky strategy, the PLA Air Force may be more likely to use civilian airliners to transport troops and supplies from around the country to staging areas close to the frontline or when enemy airfields have been safely captured.

At the end of 2001, the country had 143 airports, although only twenty-two of them were equipped to handle large airliners, such as the Boeing 747, while another thirty-five could accommodate Boeing 767 aircraft. While some of these airports originally belonged to the Air Force and were handed over for civilian use in the 1980s and 1990s, a growing number are new facilities. The civil aviation authorities have worked closely with the Air Force to ensure that military requirements are included in these new airports. In the latter half of the 1990s, each of the forty-five civilian airports built or expanded by the civilian authorities, incorporated defense requirements. This involved the hardening of buildings and construction of extra landing and maintenance facilities, to allow for the deployment of military aircraft to these airports.[29]

Defense industrial capabilities

China has extensive industrial production capabilities that, in theory at least, could be commandeered for military output. Much of this capacity is contained within the country's sprawling defense industrial complex (DIC), which covers the aviation, space, munitions, shipbuilding, and nuclear sectors. The DIC underwent far-reaching restructuring during the 1980s and 1990s, when it switched its focus from military to civilian production.

Official Chinese statistics claim that the value of civilian production of the DIC, in the late 1990s, accounted for around 80 percent of its total output, compared to less than 10 percent in the late 1970s.[30] Arms manufacturers are now the country's largest producers of low-end automobiles and consumer electronics, as well as nuclear power plants and civilian airliners. The actual experience may not be as clear-cut, as much of the military-to-civilian output came from newly added, rather than converted production facilities. Nonetheless, the final result is that the defense industry today is overwhelmingly dual-use in nature.

The defense industry has shrunk to a relatively small core of around 11 conglomerates, which oversee a manufacturing base of around 500–700 industrial enterprises and research and development entities.[31] Ten of these major defense industrial conglomerates were established in 1999, covering the aerospace, space, ordnance, shipbuilding and nuclear industries, and another large-sized enterprise group specializing in defense electronics was formed in 2002. The defense industry's estimated revenue in 2003 may have been in the region of RMB190–200 billion (US$23–24 billion), of which 35 percent, or $8 billion, was defense-related products.[32] Although one of the goals for retaining a substantial production capacity within the DIC was that it could be converted back to wartime use when needed, many of the production lines in former defense factories are now dedicated to civilian work. Consequently, only a small proportion of the DIC's manufacturing capacity can actually be mobilized for defense use within a short period of time.

Defense mobilization and civilian support in the Nanjing Military Region

The Nanjing Military Region is the primary staging area for a military conflict in the Taiwan Strait. The regional military command, and the provincial governments of Fujian, Zhejiang, Jiangsu, Anhui, Jiangxi, and Shanghai municipality come under its jurisdiction and have developed a robust and active defense mobilization system with close links between the civilian support base and the armed forces. They receive favorable treatment in the allocation of local defense funds for military preparedness and mobilization activities. In 2001, Fujian ranked third among the country's thirty provinces in the provision of defense funds, followed by Jiangsu (sixth), Zhejiang (eleventh), Anhui (thirteenth), Shanghai (twentieth) and Jiangxi (twenty-second).[33]

One of the top priorities in defense mobilization is to maintain a high degree of war-readiness in transportation, and the military region's defense mobilization committee and military region party committee claim to have achieved a number of notable successes:[34]

- In the construction of major highways and trunk routes, provincial authorities have built secondary roads to directly connect with military bases, and other important military facilities, to allow for rapid mobility of military units.
- Railway administrations in Shanghai and Nanchang have allocated special funds for the construction and renovation of railway stations, platforms, and cargo yards to be used to accommodate military transport requirements.
- The military region has developed operational procedures and solutions for the utilization of civilian merchant vessels for the transport of military equipment.
- Jiangsu has organized and trained specialized transportation support units to provide rapid reaction capabilities.
- Jiangsu, Zhejiang and Fujian have pioneered civilian shipping mobilization exercises that involve the assembly, loading and

unloading of military units and associated equipment, and ferrying them over long distances.

- Anhui and Jiangxi have focused their efforts on conducting exercises in the emergency repair of roads.
- In an effort to enhance access and mobility for coastal defense, Zhejiang has invested over RMB240 million to link up offshore islands.[35]
- The military region has established an extensive network of alliances and partnerships with local shipping companies as a means of coordinating the development of military transport needs with the growth of the local civilian ship transport industry.[36]

PLA chiefs have praised the achievements in defense mobilization and civilian-military integration work carried out by the Nanjing Military Region, pointing out it had "performed dynamic work" and made "substantial accomplishments."[37] They have also stressed, however, that much more effort is required to establish a truly capable civilian support base to support and sustain military operations. In July 2003, Cao Gangchuan pointed to a number of areas that the military region should devote more attention to in its future defense mobilization activities. They include the need to improve the technological quality of reserve forces, strengthen material supply mobilization work, speed up the construction of highways and ports for military use, expand the building of emergency repair and transportation teams, and the enhancement of the air defense capabilities of reserve and urban militia units for protecting large and medium-sized cities.[38]

This suggests that the development of a civilian defense mobilization system in east China still has a long way to go before it can effectively support a major and sustained military operation. While various aspects of the mobilization system have been tested through exercises, they tend to be limited in size and scope, and mostly confined to the regimental and brigade levels, with occasional division-level operations. A full-scale activation of the civilian mobilization system, at either the provincial or regional level, is unlikely to occur because of the significant political and

economic consequences that this might have.

The strengthening and improvement of air defense is an especially pressing concern in the military region, as military and civilian facilities, including major cities, are likely to be targets for retaliatory air and missile attacks in the event of conflict in the Taiwan Strait. This has led a number of provinces and cities, such as Shanghai, to devote considerable resources to boosting air defense capabilities. Jiangsu, Zhejiang and other provinces, for example, have also formed dedicated reserve anti-aircraft artillery divisions to defend key installations and sites.[39]

Civilian support for military contingencies in the Taiwan Strait

If the national leadership in Beijing were to take military action against Taiwan, it would have an extensive list of options to choose from, ranging from provocative displays of military force to a full-scale invasion. The role and extent of civilian involvement, however, will depend on the types of military operations that are conducted. They include:

- *Military exercises*: Since the mid-1990s, when war games were revived following a hiatus from the late 1980s until the early 1990s, PLA war games near Taiwan have become increasingly frequent and sophisticated. Many simulate possible military operations against Taiwan, such as amphibious landings and seaborne crossings. Military authorities have mobilized and employed civilian resources and capabilities in a number of ways. First, military units have relied upon the local civilian economy to provide transportation, supplies, communications and manpower support. Second, civilian entities, especially maritime organizations, militia units, and government and Party departments, have been regularly mobilized to participate in joint civilian-military exercises. One typical example is the summer 2002 military exercise in the Nanjing Military Region, when thirty large civilian ships were mobilized to take part in a two-day sea-crossing to transport a motorized infantry division in a simulated amphibious landing on Taiwan.[40]
- *Military deployments*: A major build-up of forces around the Taiwan Strait is another option. If such deployments were to take place upon a significant scale, for example, involving the dispatch of brigade- or division-sized units to forward areas in Fujian, Zhejiang and Guangdong, existing military facilities would be inadequate to fully support them, forcing them to be based at civilian locations earmarked for military use. This would include dual-use civil-military airports and ports for ground, air and naval units. Missile units belonging to

the Second Artillery, however, are more self-sufficient, making their use of civilian resources limited.

- *Blockade of Taiwan*: This would require close coordination with civilian government agencies, especially the Civil Aviation Administration of China, the Ministry of Communications, and the State Oceanic Administration, as a blockade would almost certainly lead to severe disruptions of commercial air and sea traffic in eastern and southern China.
- *Low-intensity warfare*: China could send large numbers of fishing boats into Taiwanese waters as a means of harassing the island's coastal defense forces, dispatch civilian and military aircraft to fly into Taiwanese airspace, or instruct operatives and fifth-column forces in Taiwan to disrupt social order. Civilian assets could play a prominent role in such a strategy if Beijing wanted to avoid a direct military-to-military engagement. Fishing fleets based in Fujian and Zhejiang have practiced such harassment tactics. For example, in August 2002, the defense mobilization committee in Zhoushan assembled several thousand small fishing vessels to hold organizational sea-crossing drills.[41]
- *Limited missile strikes*: The PLA could launch limited missile attacks on Taiwanese military facilities, or seize outlying Taiwanese islands. The three rounds of missile firings, between August 1995 and March 1996, caused considerable panic in Taiwan, especially affecting the island's stock market. Here, civilian involvement would be limited.
- *Seizure of outlying islands*: The PLA could mount attacks and take over some of the smaller and less well-defended islands close to the Chinese mainland, such as Jinmen. The PLA has sufficient capabilities to undertake these military operations without the need to involve civilian assets. However, if the capture of outlying islands was part of a broader strategy of invading Taiwan and other major islands, such as Penghu, military chiefs might assign second-line reserve and militia forces supported by civilian assets to attack these sites.
- *Full-scale invasion*: An invasion of Taiwan would be an enormous

undertaking, as explained in Chapter 8 of this volume. It would require extensive and sustained participation of the civilian support base from logistics and transport to the mobilization of civil defense and militia units.

In the event that China decided to attack Taiwan, military chiefs would most likely press for an immediate and full-scale invasion. Massive surprise attacks have distinguished PLA opening campaigns in the past, such as in Korea in 1952, India in 1962 and Vietnam in 1979. More importantly, military planners believe that the gulf in cross-Strait relations would be so wide by the time the leadership resorted to force, that limited attacks would be futile in dissuading Taiwan from seeking independence, and that the only viable option would be to invade the island. Although the PLA has little experience in mounting large-scale amphibious invasions, and has limited dedicated sea-lift capabilities, some Chinese military planners argue that the Taiwan Strait is not a major obstacle to a sea-crossing.[42]

Civilian support in Chinese military strategy against Taiwan

The starting point for military planners is the operational strategy of "local war under high-technology conditions," which was adopted in 1993. This strategy was based in part, upon the PLA's appraisal of the 1991 Gulf War and the acknowledgment of the central importance of high technology, which had been down-played in the past for political and operational reasons. The central principles defining this doctrine of limited high-technology war are:[43]

- *High-technology war concentrates and fully utilizes sophisticated and advanced weapons and crack troops*: Elite rapid reaction units equipped with state-of-the-art weapons will be the principal forces used in a hightechnology war.
- *High-technology war is a joint operation*: Coordinated operations between ground forces, navy, air force and, to a lesser extent, the Second Artillery, will be extensive as future conflicts are most likely to take place on the periphery of China's land and maritime borders.
- *High-technology war is highly mobile and concentrated*: Rapid tactical and strategic mobility is essential. Combat forces will often have little advance notice, and will have to move quickly and over long distances. Concentration of firepower will be an important feature of the opening stages of campaigns.
- *Electronic and information warfare will be extensively employed*: Military units will extensively utilize electronic and information systems in future combat operations, especially for command, control, and intelligence-gathering and distribution. Information warfare is likely to play an increasingly influential role in shaping the outcome of campaigns.[44]
- *High-technology war demands enormous inputs, consumption and results*: High-technology wars are intensive and the consumption of war materials is likely to be very high, especially in the initial stages of a conflict.
- *High-technology war is fast paced and of short duration.*

Drawing up a war plan against Taiwan presents special difficulties for PLA planners. Taiwan is a small, heavily defended island more than 100 km from the Chinese mainland. The Taiwanese armed forces are well equipped, and are likely to have access to strategic intelligence from the US, which would provide advance warning of any Chinese military activity that might prelude an invasion.

To carry out a high-technology based offensive strategy characterized by rapid mobility, a high tempo of operations, an intensive consumption of material, and the maximization of strategic surprise, the PLA will not only need to fully utilize its own capabilities, but also harness the civilian support base. This would include, in particular, the fields of logistics supplies, maritime transportation support, and the undertaking of efforts to minimize the risk of giving advance warning of an impending attack through a military build-up.

Logistics support

The PLA could augment its logistical capabilities by making use of civilian national and local supply networks, especially in areas such as food and fuel. For example, a substantial proportion of the PLA's strategic stockpiles of supplies are concentrated in inland regions, and any military operations in the Taiwan Strait would need forward pre-positioning of critical supplies. Rather than having to move its stocks from other parts of the country, the PLA could requisition local supplies of food, fuel and other commodities. Logistics planners have urged each military region, or war zone, to have two or three reserve support brigades that could be called up for duty when required.[45]

The PLA is already becoming increasingly reliant on the civilian economy for a growing proportion of its logistics. The PLA overhauled its procurement process in the mid-1990s, and switched from its traditional approach of self-sufficiency and began to acquire staple goods and commodities from the open market. Although there were initial concerns about its reliability there appears to have been few problems. The PLA has steadily expanded the range of products and services that it acquires from the civilian market, which are often cheaper and of better quality than the military itself can provide.[46]

Civilian support for sealift and amphibious operations

Due to its chronic lack of air and sealift capabilities, the PLA's ability to mount a large-scale amphibious invasion of Taiwan has been dismissed by many foreign military observers. The Chinese navy only has enough dedicated transport and landing ships to carry two infantry divisions totaling 20,000–30,000 troops, across the Taiwan Strait at any one time.[47] The 200,000-strong Taiwanese army could easily overwhelm such a limited force.

The PLA's primary means for building sealift capabilities is through the mobilization and modification of civilian commercial ships. PLA naval analysts point out that merchant ships can be used for a wide range of military roles, including the transportation of military supplies and providing refueling and maintenance support to other ships. In order to provide air defense and artillery fire support for ground forces, the PLA navy has also conducted trials of outfitting container ships with artillery guns and air defense missile batteries to provide air defense and artillery fire support for ground forces.[48] Furthermore, the Chinese ship-building industry has produced several types of high-speed air-cushioned landing craft that can be used to overcome the shallow mud-flats which cover most of Taiwan's west coast.[49]

While the navy's amphibious landing ships would probably be used to spearhead the storming of Taiwan's beaches, civilian merchant and fishing ships, although lightly protected and highly vulnerable to attack, would likely be utilized to ferry troops across the Taiwan Strait. Taiwanese military planners are concerned that an amphibious attack may be used as a feint, and that civilian merchant ships and fishing boats would carry the PLA's main invasion force through irregular landing operations.[50]

Preserving strategic and operational surprise

By fully utilizing local civilian resources and capabilities that are already in the vicinity of the Taiwan Strait, the PLA could lessen the risks of being detected in any major build-up of military forces. In addition, it could mask troop and equipment movements from other parts of the country, to staging areas in the Nanjing Military Region, by using regular civilian transport routes and services.

The PLA currently has three group armies permanently deployed in the Nanjing Military Region, with total troop strength of around 100,000–150,000 soldiers. This could be quickly augmented with several corps based in the adjacent Guangzhou and Jinan Military Regions. The movement of a large number of units over long distances could be easily detected though, especially as Taiwan and the US are paying careful attention to Chinese military deployments along its eastern seaboard.

As an alternative, the PLA could mobilize reservist and militia forces in provinces, such as Fujian and Zhejiang, to provide combat support to regular military units for a surprise attack. An indicator that this option is being seriously considered, is that reserve and militia units, especially division-sized forces, are regularly participating in military exercises designed to test and improve their mobilization capabilities, combat capabilities and sea-crossing skills. A typical exercise in September 2002, for example, involved Zhejiang reserve division and militia elements conducting a sea-crossing and landing exercise using civilian vessels. Regular PLA engineering and support units also took part in the beach assault drills.[51]

In order to gain operational surprise, military authorities have made extensive use of militia units and civilian resources in past conflicts to gain operational surprise, although they primarily played supporting roles. In the 1962 Sino-Indian border war, 20,000 militiamen were used to provide transport and logistical support. In the 1979 Sino-Vietnamese border war, more than 100,000 militia troops participated, providing border defense, intelligence gathering, and medical support.[52]

Conclusions

It is clear from the preceding discussion that the civilian and military authorities in China consider the establishment of an integrated dual-use national system, which can be effectively and rapidly mobilized from peacetime civilian use to supporting military operations in wartime, as an important strategic development goal.

The national defense mobilization system is the core mechanism for the harnessing of the civilian support base for wartime military needs, but the construction of this system has suffered from a wide range of problems that include a lack of resources, uneven participation from local governments, and the poor quality of the support that the civilian support base is providing. This means that China's defense mobilization capabilities, at present, are under-developed, and that there may be serious deficiencies in the actual effectiveness of the system in large parts of the country. The Nanjing Military Region, however, appears to have made substantial progress in implementing an effective defense mobilization system, especially in the key areas of transportation and logistics.

The importance of the civilian support base for the PLA, in the Taiwan Strait, will depend on the nature of the military operations undertaken, but in the event of a full-scale invasion, civilian resources and capabilities will play a critical role. This is because PLA capabilities in vital areas such as sealift, strategic ground and air transport, amphibious support and re-supply are inadequate. As a consequence, military authorities are dependent on the mobilization of the civilian support base to fill these gaps in their capabilities, and they have made urgent and concerted efforts to integrate these civilian assets into their plans and operations through regular testing. The role of the civilian support base will become invaluable if military conflict in the Taiwan Strait turns into a protracted campaign extending beyond one to two weeks.

With the rapid pace of economic development in China, especially in the key areas of the civilian support base such as transportation, telecommunications, logistics, industrial production and financial

investment, the civilian sector's capacity to support the PLA at wartime will steadily increase. The military's ability to harness this potential will depend largely on the effective development of the defense mobilization system and other civil-military mechanisms, such as the reserve and militia systems.

Notes

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Part III
THE COST OF A WAR TO CHINA

10
DIPLOMATIC CONSEQUENCES

Yong Deng

When contemplating the use of force, national leaders carefully weigh the costs and benefits of their choice. With regards a decision by the People's Republic of China (PRC) over Taiwan, what is striking is the juxtaposition of the enormous value the leadership attaches to the issue, and the equally enormous costs that a forced solution would entail.[1] When the Chinese leadership makes the fateful decision of war, it must carefully calculate these consequences. To the extent that Beijing must balance the benefits of a rash decision with its costs, an examination of the consequences sheds important light on the parameters of China's decision making and the stability of deterrence across the Taiwan Strait.

This chapter explores the diplomatic consequences of a militarized conflict for Beijing. Despite its obvious significance, few English-language studies exist that analyze the diplomatic costs of a war on Taiwan.[2] For different reasons, while vowing to pay any price for national reunification, Chinese officials tend to prevaricate on cost-assessment. The late Chinese leader, Deng Xiaoping, talked about "retrogression" *[daotui]* in Sino-American relations, as a worst-case consequence that China must accept.[3] Most recently, the People's Liberation Army (PLA) Major General Peng Guanqian listed "possible retrogression *[daotui]* in relations with certain countries" as one of the costs of war against Taiwan independence.[4]

As the following analysis is by definition somewhat speculative, at the outset a few qualifications are in order. The fallout of the war across the Strait will depend upon the circumstances under which it takes place. The conflict scenario envisioned here is one that will have been widely considered by the United States and other interested parties alike as one unilaterally initiated by Beijing to change the status quo. Admittedly this remains quite vague, given the lack of common interpretations of what

constitutes the "status quo" and what would represent "provocation." It does, however, clearly apply to Beijing's use of force being driven primarily by either domestic nationalist politics or its *perception* that Taiwan is slipping away, or a combination of the two.

In order to gauge the diplomatic consequences of a war on Taiwan, it is necessary to establish what the PRC leadership values most in its foreign relations, and how Taiwan fits into these priorities. The 16th Congress of the Chinese Communist Party (CCP) was held in November 2002, and officially set out the establishment of a well-off society as the overriding national goal for the next two decades. Chinese foreign policy is to serve this goal.[5] More specifically, the PRC needs a "strategic opportunity," an international community that accepts, rather than fears, China's rise. The CCP leadership, led by President Hu Jintao and Premier Wen Jiabao since March 2003, has actively adopted a set of decisions designed to match China's material power with the status of a legitimate and responsible player in the international community. This policy framework does not allow for the "loss" of Taiwan. Yet it also defies a military solution to the problem, as a war on Taiwan would imperil China's overriding foreign policy goal at creating a sustained, benign international environment. Now more than ever, Beijing has greater incentive to maintain its credibility of military threat while at the same time relying on non-violent means to influence cross-Strait developments in its favor.

The Taiwan conundrum in China's grand strategy

Since the events of 11 September 2001, several factors have converged to shape a Chinese foreign policy centered on cultivating reassurance regarding its intentions and the recognition of its legitimate status in the international community. First, China's entry into the World Trade Organization (WTO) institutionalized its economic integration into the global economic system. Its WTO membership reinforces China's international interdependence, while simultaneously increasing its stakes in the existing world order. It also represents a milestone in China's quest for obtaining great power status.

Second, the new Hu-Wen leadership has reaffirmed economic development as the top priority of its domestic agenda. The 16th CCP Congress set the explicit goal of quadrupling China's gross domestic product by 2020, from its 2000 level of US$1 trillion. At the same time, Chinese foreign policy has been tasked to create the international environment necessary to achieve this objective. Given this economically centered agenda and an increasingly open decision-making process, the foreign policy arena in China has become highly responsive to inputs from the pluralizing interests and actors in its rapidly changing society.[6] The upshot is that Chinese foreign policy has never been as domestically embedded and less prone to radicalism as it is today.

Third, Chinese leaders have gradually come to appreciate the dynamics of the security dilemma that a rising China may spark. In the 1990s, Chinese leaders and analysts had indignantly dismissed any criticism of their country's foreign policy, as malicious attempts at spreading the "China threat theory." They further attributed such talk to ignorance, ill will, a Cold War mentality, or biased attitudes toward China, while simultaneously absolving China itself of any responsibilities. In contrast, the concept of security dilemma currently is one of the most widely studied issues in the Chinese International Relations community. As an appreciation of foreign concerns about China's growing power, rooted has grown, China's scholarly and policy communities have also begun carefully to examine how China can put such concerns at ease.

Finally, the US-led global war on terrorism has had a significant impact on Chinese foreign policy choices. While the US security framework has previously focused on the traditional great power struggle, its current overriding concerns are that of transnational terrorism and such related threats as the proliferation of weapons of mass destruction. As a result, US concerns about China as a strategic competitor have subsided. Meanwhile, their shared interests in combating these non-traditional threats have infused Sino-American relations with a cooperative dynamic that previ

Table 10.1 Traditional power politics and China's new strategy of status advancement.

ously was downplayed. Equally important for Beijing is the recognition that the cost of a confrontation with the United States is prohibitive. Together these considerations have made the CCP leadership feel both confident and compelled to pursue a restrained, cooperative international strategy.

Fundamentally this strategy not only seeks to avoid traditional great power politics that is characterized by the zero-sum struggle for relative superiority. In today's uni-polar world, which is underpinned by broad-based US power and surrounded by suspicious neighbors, a China whose foreign relations are driven by an unmitigated security dilemma that would surround China's rise would create a strategic nightmare for its goal of "national rejuvenation." As Table 10.1 shows, China has embarked on a status quest to replace the traditional great power politics. Simply put, it aims to build on the idea that "status is legitimized power."[7] Inadequate legitimization is measured by the intensity of the "China threat", as well as crude zero-sum power calculations behind other powers' policies toward China. On the positive side, the degree to which China's attempts to play a responsible role in regional and global affairs are appreciated, would signify its status gains.

For China, this strategy entails the reduction of mutual suspicion and hostile balancing, which traditionally intensifies among major powers during times of power shifts. The status interests of China are simultaneously driven by a pro-system bias and a revisionist agenda.

They demand changes to the international status quo while at the same time requiring a positive Chinese image as a responsible member in the international community. In terms of security approach, China's new strategy intends to moderate the self-help, unilateralist logic of traditional security. In a nutshell, China's preference is for a win-win competition so that its rise is viewed as an opportunity, rather than a threat.[8] While China's status quest by no means renders power politics obsolete, it does mean that Beijing has carefully balanced power politics with international reassurance, so that its material growth and status recognition become mutually reinforcing.

The PRC's ostensibly peaceful strategic choice has increased—rather than reduced—the centrality of the Taiwan issue in its foreign policy. Taiwan is a pivot around which Chinese national identity and aspirations have been constructed by PRC political elites. It has thus become China's core security interest. As the influential Chinese scholar Wang Jisi observes, "there is the notion among many Chinese that the revival of the Chinese nation would not be meaningful and real if the mainland failed to achieve reunification with Taiwan."[9] As such, Taiwan has become a *sine qua non* and therefore a litmus test of China's quest for great power status. For example, due to former US President Bill Clinton's verbal and explicit pledge that the United States would not support the separation of Taiwan from China or Taiwan's representation in international organizations that could confer on it full sovereign rights, the Chinese assessment of the 1997–8 period is a most optimistic one in terms fo its status advancement.

The centrality of the issue notwithstanding, China's status politics is not dependent upon forcefully seeking the return of Taiwan, but rather requires the avoidance of such a military solution. Historically, power-politics concerns geared toward territorial disputes have been the central cause of wars.[10] Indeed, it was territorial defense that characterized Maoist China's rather frequent use of force.[11] Since territorial wars derive from the traditional security paradigm, the use of military coercion against Taiwan implies a reversion to traditional power politics,

which the contemporary Chinese strategy has been seeking to avoid. The unprovoked use of force also directly contradicts Beijing's attempt to downplay the militarized nature of international politics. Equally important is the extent to which democratic values are part and parcel of the normative underpinnings of the contemporary great power system and the world order at large. Therefore a military invasion of a democratic Taiwan would amount to a most brazen defiance of the normative framework, and would cause irreparable damage to China's international standing.[12] Prominent Chinese analysts are acutely aware that the real danger of a military confrontation would be the derailing of broad Chinese strategic choices.[13]

For Beijing, Taiwan represents both an end and a means to China's status-politics efforts. Much of the PRC's struggle to gain great power recognition has focused on cultivating international respect for its claim over Taiwan. Taiwan's independence would represent an unacceptable and irreparable loss. Yet the risks and costs of a unilateral military solution clearly outweigh its benefits. Thus, PRC attempts to maintain the much tattered One-China principle are preferred over the alternative option of resorting to the use of force against Taiwan.

More than a setback: the diplomatic costs of war

From a scholarly perspective, as Iain Johnston argues, analytically speaking, China's coercive diplomacy toward Taiwan should be viewed as "a dangerous exception (to its otherwise conformist foreign policy pattern) but an exception nonetheless."[14] In the policy world, however, it is all but impossible to separate the Taiwan issue from overall Chinese international orientations. For the United States, its security commitment to Taiwan is defined—albeit somewhat ambiguously—by the Taiwan Relations Act (TRA). Even European powers more sympathetic to the PRC's position have refrained from giving Beijing a free hand. For the United States, Japan, and other key international players, how China handles Taiwan is inextricably linked to the broad context of China's grand strategy.

US support for Taiwan has evolved in tandem with the status of TRA. The most noteworthy change in US policy, under the current Bush administration, is the elevation of TRA to a level on par with its three communiqués with the PRC. The juxtaposition of the three communiqués and TRA in the US official policy formula reflects the unprecedented significance the Bush administration has attached to its security commitment to Taiwan. Equally important is how this new formula both signifies and reinforces strong and increasingly institutionalized US Congressional support to Taiwan.[15]

One lesson that the Clinton administration drew from the 1995–6 missile crisis was the need for a more actively engaged and proactive United States to deal with cross-Strait relations. The combination of identity struggle and democratic politics in Taiwan has proven to generate unforeseen dynamics.[16] Clinton's apparent tilt toward Beijing in 1997–8 set off a backlash from Taiwan as President Lee Teng-hui openly defied the One China concept, by characterizing the cross-Strait relationship as that of "special state-to-state" relations. The persistent tensions across the Strait have underscored the inadequacy of traditional strategic ambiguity in serving the US objective of peace.[17] The politics of Taiwan, mainland China, and the United States were such that the

erstwhile noncommittal US position on provocations, and any unilateral imposition of a solution by either side of the strait, no longer served as a realistic, balanced, and stable policy framework.

Upon his inauguration in January 2001, President George W.Bush reflected this view by immediately taking measures to readjust the US's Taiwan policy. Developments signaling the growing US commitment to Taiwan's security included most dramtically Bush's statement that the US would "do whatever it takes to help Taiwan defend itself."[18] They also included the proposal of the largest high-tech weapons sale to Taiwan in a decade, an unprecedented level of engagement, since 1979, of a US interest/role in helping with the modernization of Taiwan's military, and the holding of meetings between Taiwan's defense minister Tang Yiau-ming, with high-ranking US officials from both the Defense and State Departments in March 2002.

Since the latter half of 2002, however, the need to strategically engage China and to seek its cooperation in the war on terror, has led to a more balanced US policy that explicitly prevents either China or Taiwan from forcing a resolution. Both before and during his 1 June 2002 visit to the Singaporean International Institute for Strategic Studies, then Deputy Secretary of Defense Paul Wolfowitz stated in unambiguous terms that, in addition to the long-standing opposition to the use of force, "we are opposed to Taiwan independence".[19]

At his subsequent summit meetings with Presidents Jiang Zemin and Hu Jintao, President Bush reaffirmed the US's "One China" stand, but whether the exact wording was "opposing" or "not supporting" Taiwan independence remains contested.[20] Greater US respect for PRC interests on the Taiwan issue has made it possible for a significantly improved Sino-American relationship in the post 9/11 era.[21] Yet while officially refusing to mention the TRA when publicly characterizing the US "One China" policy lest the domestic law be legitimized, Beijing nonetheless fully appreciates the TRA's new and unprecedented prominence in US policy, which has meant a much clearer and robust US commitment to Taiwan's security. In voicing Beijing's displeasure, the veteran architect

of Chinese diplomacy Qian Qichen responded to Secretary of State Colin Powell's exuberant characterization of US-China relationship by maintaining, at a high-profile forum in Texas in November 2003, that bilateral ties "may and can be even better."[22]

Chinese complaints notwithstanding, the elevation of TRA in US policy on the Taiwan issue is an indication of American resolve to maintain a credible deterrence against unilateral PRC military attack.[23] American officials' verbal commitment is backed up by growing military ties with Taiwan, particularly through the offer of large amounts of arms sales, explicitly designed to counter the Chinese military threat. While greater emphasis on the TRA may not altogether remove ambiguity regarding the nature of the US military role in a cross-Strait war, it nonetheless provides for direct US intervention and leaves little doubt about the grave consequences that could follow Beijing's military invasion.[24] Regardless of the battlefield outcome, any ensuing hostilities held by the United States and its Western and Asian allies toward China would be both certain and costly.

Thanks to its alliance with the United States, to colonial legacies in Taiwan, to ambivalent relations with China, and to its own international aspirations, Japan occupies a special position in the Taiwan issue. It is the only major power, other than the United States, and the only Asian country that China is most concerned about with respect to Taiwan. The 1995–6 cross-Strait crisis marked a turning point in Japanese views regarding Taiwan and China at large. While the effort to revitalize a US-Japan alliance was jump-started in the aftermath of the 1993–4 Korean nuclear crisis, the process was also clearly influenced by PRC missile tests near Taiwan. It fed into Japanese suspicions of the PRC, at a time when fear and negative perceptions of China were already on the rise.[25] According to one key architect of the renewed US-Japan alliance, for the United States the 1995–6 crisis offered a rationale to enlist the necessary Japanese support to strengthen its engagement policy toward China.[26] The result was revised defense guidelines, released in 1997, pledging joint US-Japanese response to "situations in areas surrounding Japan" on

a "situational" basis.[27] Notwithstanding Chinese pressure, Japan's refusal to exclude Taiwan from the situational considerations only fueled Beijing's suspicions of Tokyo's motives.

In the past several years, increased Japanese threat perception *vis-à-vis* China's rising power has strengthened support and sympathy in Japan for Taiwan. In the meantime, Japan has shown a readiness to play a larger political and even military role, unprecedented in the period since the Pacific War, within its alliance with the United States, which has been greatly strengthened in the aftermath of 9/11. Thus in a joint statement issued by US Secretary of Defense Donald Rumsfeld and Secretary of State Condoleezza Rice and their Japanese counterparts on 19 February 2005, Japan joins the United States in pledging to "Encourage the peaceful resolution of issues concerning the Taiwan Strait through dialogue."[28] Seemingly moderate, this move nonetheless signals a clearer, more assertive Japanese stand that effectively reduces the ambiguity surrounding Japan's commitment to non-violent outcome over the Taiwan issue.

Japan has insisted that its "One China" policy has not changed even after the latest US-Japan joint statement. Indeed, Tokyo expressed reservations over the highly controversial referendum proposal on cross-Strait relations leading up to the March 2004 presidential elections in Taiwan. But what has changed is the centrality of the Taiwan issue with regard to Tokyo's relations with China and Japan's overall strategic choice. Putting aside the military role Japan may or may not play in a conflict scenario, an unprovoked PRC military invasion of Taiwan would doubtless fuel the concerns of a China threat, further intensifying the hostile politics of a balance of power struggle between the two Asian giants. It would also aggravate Japan's sense of vulnerability, motivating Tokyo to embark on an accelerated path toward "normal power status", with significantly less restraint placed upon the expansion of its military capabilities.

The hallmark of the PRC's regional status quest policy is its "win-win," comprehensive, and multilateral approach. The aim of this policy,

as presented by Chinese officials, is not motivated by balancing logic against the predominant US power or traditional power politics, nor is it geared toward fulfilling China's hegemonic ambitions at the expense of Japan's regional role.[29] Guided by this new strategy, Beijing's regional diplomacy has achieved notable success, but has by no means obviated regional concerns regarding growth in Chinese power and influence. Most tellingly, at the conclusion of Singapore's free trade agreement with the United States in May 2003, Prime Minister Goh Chok Tong underscored the strategic significance of trade to defend his country's new ties with the United States. In light of a growing China, according to Mr Goh, "The over-arching strategic objective in East Asia must be to ensure that the region remains in harmonious balance as China grows. And only by working with the US can East Asia achieve this objective."[30]

While no Asian country publicly denounced the PLA missile firings in 1995–6, the crisis did raise serious questions regarding China's regional role among the strategic analysts and planners throughout the region.[31] Since then, Taiwan has become more of a regional issue, rather than simply China's domestic affair. China's responses have become more of a signifier of its strategic posture than simply an isolated event. As a result, even the PRC has accepted the fact that the Taiwan issue impinges on regional security, although it also continues its claim that the peaceful management of the cross-Strait relationship must be predicated through the maintenance of the "One China" notion. And Beijing has blamed its threat of war on Taipei's provocations. The purpose is both to minimize the diplomatic cost of its continuous saber-rattling but also to add pressure on Taipei. Chinese leaders are acutely aware that a PRC military attack on Taiwan would cancel out the many important gains China has made in international status in the region and beyond, thereby dealing a heavy blow to its vital diplomatic goals.

Avoiding war: the threat of force in China's diplomacy

Clearly, a Beijing-initiated war on Taiwan would cost China dearly in terms of its core strategic objectives. China's peaceful quest for great power status requires the prevention of Taiwan's *de jure* independence without the use of force. In the meantime, however, the worst fear in Beijing is that Taiwan may seize the window of opportunity to formalize its independence over the next few years. The events surrounding the 2004 presidential elections in Taiwan underscored the real danger of an imminent clash between China's strategy of peaceful status rise and Taiwan independence. A report by the CCP Propaganda Department in January 2004 reflected the sense of urgency in Beijing, and concluded that the development of both "positive and negative factors regarding the Taiwan issue are accelerating. The historical process of resolving the Taiwan issue is already approaching the critical period."[32]

In response, Chinese leaders have ratcheted up the threat of force, and have been unusually forthright with the costs of war they are willing to pay to prevent Taiwan's independence. As a credible threat is viewed as essential for Beijing's diplomatic campaign, Beijing hopes that this new tactic will help demonstrate its resolve to follow through its repeated warnings. Clearly, similar logic motivated the passing of the anti-secession law by the PRC People's National Congress in March 2005. Beijing's calculations were revealed by the late Chinese leader Deng Xiaoping, who stated:

> We strive for a peaceful solution to the Taiwan issue, but would never rule out the option of force. We cannot make such a promise. What if the Taiwan regime never negotiates with us, what shall we do? Could it be said that we should then give up national reunification? We must remember this. Our next generation must remember this. This is a strategic consideration.[33]

Given the fact that few would like to see a war across the strait, a credible

military threat has become integral to Beijing's diplomatic offensive to reinback the independence momentum in Taiwan. The *use* of force may be Beijing's last resort, but the *threat* of war is not.

Beijing is fully aware that when push comes to shove, the prevention of war across the Straits outweighs the other goals of all key international players, including the United States. To dissuade support for Taiwan independence, Beijing now acknowledges Taiwan's importance to regional stability, but at the same time has equated Taiwan's independence-motivated "provocations" as endangering peace in East Asia.[34] On the one hand, Beijing's recognition of the regional fallout from the Taiwan issue has marked a positive change from its longstanding, rigid insistence that Taiwan was purely a domestic Chinese affair. On the other hand, any threat to peace has enabled Beijing to lay blame on elements of Taiwan independence, thereby eliciting international support for its policy in the name of peace and stability. In this way, Beijing's threat of force has sought to deter Taiwan's independence and dissuade the international community from abandoning the One China framework. Beijing's tactic of peace, coupled with its economic opportunism, has achieved some success in eliciting opposition to Taiwan's challenges to the status quo from neighboring countries and beyond.

While maintaining its military threat, Beijing has launched a more focused and concerted diplomatic campaign to oppose steps taken by Taipei to formalize Taiwan's independent status. At the height of the latest plebiscite controversies in 2003–4, Beijing managed to elicit quite explicit statements in opposition to Taiwan's referendums and in support of the "One China" principle from Russian president Vladimir Putin, Germany's chancellor Gerhard Schroeder, and French president Jacques Chirac. The PRC has attempted, with some success, to translate its gains in international status into diplomatic leverage on Taiwan. With regard to the United States, Chinese officials have most recently expressed vocal and firm opposition to the TRA. With regard to Taiwan, Beijing seeks both to deter and attract. For example, in tandem with the preparations

for the anti-secession law in early 2005, Chinese leaders simultaneously extended an olive branch to Taiwan, expressing their willingness to deal with DPP leaders and to cooperate on a wide range of functional issues, such as direct flights across the straits and opening the mainland markets to Taiwan's agricultural exports. It is clear that Beijing's immediate goal has been to avoid a costly war through a two-pronged strategy: the threat of force against Taiwan independence on one hand and diplomatic campaign to defend the One China notion by capitalizing on China's growing power and influence as well as its reputation as a responsible player in the international arena on the other hand.

Conclusion

In conventional wisdom, deterrence is ultimately predicated on mutually assured destruction (MAD). According to this logic, for deterrence to succeed, adversaries must match each other's military capabilities. However, in assessing the military balance across the Taiwan Strait, one must also consider the effectiveness of what Thomas Schelling calls "the fear of the consequences," which frequently prevents the strong from attacking the weak. In other words, even within a context where an ability for the two adversaries to cause equitable, mutual harms does not exist, deterrence can work so long as the prohibitive costs of a war that would be incurred by the strong side are credible.[35]

As the preceding analysis shows, the diplomatic costs of China's unilateral use of force against Taiwan would be extremely high. The consequences would not only set back China's foreign relations, but could also mobilize hostile containment from the United States, Japan, and other regional states. It would possibly derail Beijing's strategic goal of creating a lasting, benign environment, the success of which is also essential for China's continued economic growth and national rejuvenation. When contemplating the use of force, the grave consequences of China's belligerency may be such that the highly security-conscious CCP leadership would be forced to carefully weigh the outcome on the battlefield against the diplomatic costs. The diplomatic consequences alone suggest that a considerable deterrence against a PRC military attack exists.

Despite the enormous costs of a militarized conflict, Beijing cannot and will not renounce the use of force, and its protested resolve to pay any price to stop Taiwan independence should not be dismissed as mere bluff. Apart from the core nationalist and regime security interests that the CCP party-state attaches to Taiwan,[36] China's new conception of its international status has made Taiwan's formal independence even more unacceptable. At the same time, however, the emphasis on legitimate power and international responsibility in PRC foreign policy has also made a military solution appear much less palatable and extremely

costly. Beijing's preference has, therefore, been to rein-in Taiwan independence through political and diplomatic campaigns.

The PRC would not be the sole actor suffering the costs, diplomatic or otherwise, of a war with Taiwan. It is fundamentally in the interest of key players, including China, the United States, and Taiwan, to avoid such an outcome. Ironically, the costs of such a war may ultimately help to prevent it.

Notes

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11
ECONOMIC AND POLITICAL COSTS

Jing Huang

Introduction

In December 2003, Major General Peng Guangqian and Senior Colonel Luo Yuan publicly listed the 2008 Olympics, loss of foreign investment, deterioration in foreign relations, economic recession, and "necessary" casualties by the People's Liberation Army (PLA), as the costs China would willingly bear in order to "reunify the motherland" by force.[1] The significance of this is twofold; first, it is the first time China has provided a specific list of acceptable "costs"; and second, it was stated by two PLA officers in charge of strategic studies at the Chinese Academy of Military Science.[2] A further statement made on 17 May 2004 by the Taiwan Affairs Office of the People's Republic of China (PRC) State Council and the Chinese Communist Party (CCP) Central Committee, claims that if Taiwan should provoke "major incidents of Taiwan independence, the Chinese people will crush their schemes firmly and thoroughly at any cost."[3] The truly intriguing and critical question is whether China would still be willing to use force if the list of costs was longer and the price substantially higher than Beijing's stated expectations.

This chapter begins with a brief examination of the economic costs China may have to bear, and its implications for the world economy in general and for the Asia-Pacific region in particular, should Beijing choose to "reunify the motherland" by force. The analysis will then focus on the political costs, both international and domestic, for China. I conclude with the argument that asking the question of whether China can afford to attack Taiwan is in fact misleading.

Economic costs and implications

China's rapid pace of economic development has constituted the basis of legitimacy for the CCP's rule in the past two decades. This development results largely from China's economic integration into the world economic system, culminating in its entry into the World Trade Organization (WTO) in late 2001. In 2002, the total value of China's foreign trade reached US$620.785 billion. While the value of imports totaled $295.216 billion, exports increased by 22.3 percent to reach $325.57 billion,[4] 26.3 percent of China's 2002 total GDP ($1.2371 trillion).[5] In 2003 China's foreign trade registered an astonishing increase of 37.1 percent, bringing its total value to $851.21 billion. Imports rose by nearly 40 percent from the previous year to reach $412.84 billion.[6] Meanwhile, exports grew 34.6 percent to $438.37 billion.[7] Given the 2003 9.1 percent growth rate of China's economy, the total value of exports ($438.37 billion) reached nearly one third (32 percent) of total GDP ($1.41 trillion).[8]

Moreover, foreign direct investment (FDI) has further fueled China's fast economic growth. In 2002 contracted foreign investment (CFI) reached $82.8 billion, which was 16 percent of the total investment in fixed assets ($521.95 billion) in China.[9] The following year CFI grew by 39 percent to reach $115.07 billion. Officially, the top ten foreign investors in 2003 were: Hong Kong, the Virgin Islands, Japan, South Korea, the United States, Taiwan, Singapore, Western Samoa, the Cayman Islands, and Germany.[10] However, given that a substantial amount of investment from Taiwan arrives via a third country, Taiwan is in fact China's largest investor; this is why the Virgin Islands, Western Samoa, and the Cayman Islands are listed as second, eighth and ninth among the top ten. Indeed, while China has become Taiwan's largest export market, estimates of cumulative Taiwan-sourced investment in the mainland have reached over US$100 billion. In short, over one fifth of total FDI in China, over the past fifteen years, has come both directly and indirectly from Taiwan.[11]

Thus, should Beijing use force against Taiwan, China's economy would suffer enormously, for an attack on Taiwan would bring about certain devastation to China's foreign trade and freeze virtually all FDI. Given that economic development is the primary source of legitimacy for CCP rule, it is reasonable to deduce that a war against Taiwan would be self-destructive for China, in terms of both economic development and political stability.

The Chinese leadership, however, seems to assess likely economic costs from a different perspective. An internally circulated "research report," issued by the Taiwan Affairs Office of the PRC State Council in November 2003, asserts that China "can fully bear ["wanquan nenggou chengshou"] an economic recession" that may result from the use of force, of as much as a 26 percent decrease in its GDP. According to this report, if a war against Taiwan were "a quick success", its impact on China's economy would not be as devastating as speculated by the outside world.[12] Along this line of thinking, although imports from Taiwan counted for 12 percent—next only to Japan (18 percent) and the European Union (EU) (12.9 percent)—of China's total imports in 2003 (see Table 11.1),[13] exports to Taiwan were only 2.1 percent of China's total (see Table 11.2).[14] Thus, in terms of economic exchanges across the Strait, China's economy would only be minimally affected; whereas the impact on Taiwan would be devastating. It is also argued that, although the United States (US)-led Western world would impose an embargo against China, such an embargo would not be particularly damaging for China's economy. In this calculation, while exports to the Western world (i.e. the US, EU, Japan, Australia, and Canada) amounted to 53.9 percent of China's total exports in 2003 (see Table 11.2), an increase in exports to other regions (e.g. Southeast Asia, Hong Kong, Russia, etc.) might in fact supplement part of the supposed losses. Furthermore, putting the economy on a wartime footing might also help China absorb the losses caused by a US-led embargo. As for imports from the West, which amounted to 30.9 percent of total imports in 2003 (see Table 11.1), most were deemed to belong to the high-tech and "luxury" categories. The

government considers their loss unlikely to have any substantial effect on Chinese society, particularly during a period of war. The authors of this report go further to argue that a shortage of imported goods from the West may actually promote the development of national industries in high-tech areas, resulting in the restructuring of China's economy and markets for greater self-sufficiency, and even strengthen China's cooperation with other countries, like Russia, in science and technology.

Table 11.1 China's top ten import sources (2003) (unit: US$100,000,000).

Table 11.2 China's top ten export markets (2003) (unit: US$100,000,000).

The same report also cites "the view of a group of leading economists" that, should Beijing use force against Taiwan there would be a "significant loss of FDI", which has largely fueled China's rapid economic growth over the past decade,[15] for over one fifth of the FDI came from Taiwan directly or indirectly (see above). FDI, however, refers to the total amount of CFI, rather than the actually utilized foreign investment (UFI), which is typically much lower than CFI. For example, the total amount of UFI in 2002 was US$52.7 billion, only 63.65 percent of the projected CFI ($82.8 billion). Likewise, less than half of the 2003 CFI (US$115.07 billion) was actually utilized (US$53.5 billion). Given that UFI has rarely exceeded 10 percent of the total investment of fixed assets in China, most economists in China appear confident that Beijing can effectively manage the perceived difficulties caused by the potential loss of FDI, particularly if a war led to the application of rigid financial and monetary policies.[16]

The crucial flaw in the above calculation is the absence of any assessment of the long-term implications, not only for China's own economy, but also for the world economy; the Asia-Pacific region is particularly vulnerable, as its economic prosperity is interdependent with China's. A deep recession, or a dramatic slow-down due to a war across the Taiwan Strait, would have a devastating impact on the region's economies, which in turn would further exacerbate China's own problems. Should the war become protracted as a result of US intervention, which seems virtually inevitable given the enormous stake

the US has in the region, this would cast an even more ominous shadow over China and the region.[17]

Given the disastrous implications for China's neighbors and the rest of the world, the real economic costs for China, in a war against Taiwan, are substantially higher, and indeed should be deemed prohibitively high. Rather than simply relying upon the remarkably optimistic assessments by Beijing analysts and PLA strategists, a rational and wise leadership must take all this into account before making a decision on whether to use force against Taiwan.

Political costs: international

China's long-term development goal is to sustain economic development and maintain political stability at home. In order to accomplish this enormously challenging goal, China needs a peaceful international environment. It is obvious that a cross-Strait war would undermine all efforts the Chinese leadership has made in the past decade to maintain such a peaceful international environment.

Indeed, it is only recently that Chinese leaders have begun to recognize that their country's rise could represent a threat to the existing international system, not necessarily because history has taught us that a rising power usually leads to instability, but because a rapidly developing China has brought, and will bring about, conflict and competition over resources, markets, and eventually value systems. In acting upon this recognition, the PRC government sponsored several "research projects" in 1998–2001. The aim of these projects was to make recommendations to the leadership on how to diminish perceptions that a rising China would challenge the existing world system, to establish the image of a "responsible, cooperative and status quo power," and to "re-assess" the role a rising China can, and should, play in world affairs.[18] By the end of 2003, Chinese leaders had reached a consensus on a "strategy of peaceful ascendancy ["heping jueqi zhanlue"]." Rather than engaging in frontal confrontations with other world powers for the resolution of differences and conflicts, China has emerged with a strategy aimed at positively integrating China into the world system through "seeking multilateral and constructive cooperation."[19] The key elements of this "strategy of peaceful ascendancy" involve:

- China should recognize and accept the reality that the United States has played, and will continue to play in the foreseeable future, as a predominant actor in both international politics and world economy. Thus, *maintaining "a stable relationship and avoiding confrontations with the United States" must be the linchpin of China's foreign policy.*
- Although China is still a developing country, the outside world sees

China as a rising power that could become a threat to the existing status quo. Thus, *China must strive to project an image of a responsible power that abides by the accepted norms and principles of international affairs*.

- The mainstream movement in world politics today is for peace and prosperity; and the existing international system is essentially in accordance with this status quo. It would be more effective to promote China's interests from within the system, rather than challenging it from without. Thus, *China must integrate itself into this system, and oppose any attempts to undermine it*.
- The United States has enormous and ever-growing strategic interests in the Asia-Pacific. Thus, *"a good and interdependent relationship" with other Asian countries will not only enhance China's security and development, but also provide China with effective, back-up leverage* vis-à-vis *the United States.*
- Despite America's preeminence, other major powers have important roles to play in, and substantial influence over, international politics. Thus, *China must actively engage with other major powers to develop a "stable framework of big power relations ["wending de daguo guanxi kuangjia"]."*
- To sustain economic growth and maintain political stability at home, China needs not only a peaceful international environment, but also a healthy world economy, particularly within the Asia-Pacific region. Thus, *Chinas long-term development strategy must be conducive to promoting regional prosperity*.[20]

In recent years we have begun to witness substantial changes in China's foreign policy and international behavior. Most noteworthy is the adoption of a "new diplomacy" centered on two "guiding principles ["zhidao fangzhen"]":

- "Actively engage in international affairs," especially in the Asia-Pacific, and adhere to the general approach of "seeking cooperation, putting aside disputes so as to avoid confrontations…[and] promoting

multi-lateral communication and cooperation."[21]
- Maintain "a stable relationship with the United States"—this is "the core issue concerning China's diplomacy."[22]

Since the 11 September terrorist attacks on the US, and in an effort to "seek cooperation" or even a "strategic partnership," Beijing has approached the US with various initiatives. It sees multilateral and cooperative approaches as a more effective way for steering America's preeminence in directions not adverse to China's vital interests. The Chinese leadership has also begun to realize that only by strengthening and operating through existing international institutions and regimes, can it better protect itself and avoid confrontations with the superpower, given the inevitable conflicts of interest between the two countries during China's ascendancy. Moreover, as peace and prosperity in Asia are in both nations' vital interests, Chinese leaders have come to believe that US interests in Asia do not necessarily collide with those of China. Consequently, China's attitude toward the US military presence in Asia has also changed from negative to at least pragmatic, if not forthright positive. Beijing hopes that US forces in Asia can play "a healthy and constructive role" in the region's development.[23]

In order to "maintain a peaceful international environment," Beijing has also made significant changes to its diplomatic efforts in the Asia-Pacific. By emphasizing accommodative engagement, Beijing has adopted new measures toward countries in South, Southeast, and Central Asia, including:

- Reinforcing the "good neighborhood policy" with a conciliatory and even accommodative approach to settle territory disputes.
- Joining in promoting "the ASEAN way" of security concept and practice, i.e. maintaining regional peace and stability through multilevel communications, coordination, and cooperation among the Asia-Pacific countries.
- Improving its bilateral relations with Japan and South Korea (especially the latter) in an effort to dilute the perceived threat from

the US-led alliances.
- Improving its relationship with Moscow, in an effort to form a "Sino-Russia strategic partnership."
- Initiating "confidence building measures" with Russia, Kyrgyzstan, Kazakhstan, and Tajikistan to reduce military forces in border areas and to promote military exchanges.

Although these policies have been well accepted and successful,[24] all the efforts to establish China as a cooperative, responsible, friendly, and status quo power would be destroyed if Beijing were to use force against Taiwan. First and foremost, damage would be done to US-China relations. Given the Taiwan Relations Act and the United States' vital and strategic stake in the area, an attack on Taiwan would lead China down a path of deadly confrontation with the US. It would result in the imposition of a US embargo on China, a build-up of US military forces in the Asia-Pacific, and the strengthening of US alliances with Japan, South Korea, and Australia. Ultimately, all the major countries of the Asia-Pacific would be forced to realign themselves between the two confronting powers, which may not work in China's favor, eventually bringing about an end to the state of international peace and stability considered indispensable to China's further development. Such a turn of events would have devastating implications for China. Ironically, it is the very success that China has had in integrating its economy and maintaining its political stability in the world system that would make this turn of events even more unbearable for China, as well as for the entire region.

Second, an attack on Taiwan would provoke a strong reaction in Japan, where right-wing forces have already made headway, in recent years, in their efforts to re-establish Japan as a "normal" state with an independent foreign policy, instead of a "coping" one, and an independent military, rather than a "self-defense force." Given Japan's rubbed sensitivity to the "China threat," as well as the fact that Japan has one of the most advanced armed forces in the world, a hostile Japan seeking rearmament with a "normal state" status is the last thing Beijing wants to see.

Last but not least, using force against Taiwan would be deemed by China's neighbors, especially in South and Southeast Asia, as a precedent and an indication that China will resort to force to settle future bilateral disputes or conflicts. This would heighten regional worries regarding the "China threat," not just in terms of a potential danger, but also as a fact for the international and regional communities to deal with collectively.

All in all, an attack on Taiwan may give rise to a chain of events and reactions in the international community, which will have an extremely negative and long-term impact on China's external environment. In the long run, Beijing may not be willing, or able, to bear the high costs to China's development and perhaps to the CCP's capacity to stay in power. It is in this perspective that any damage to China's international environment, due to the use of force against Taiwan, would be directly related to the formidable risk the Chinese leadership would have to bear in the domestic politics arena, primarily for its own survival.

Political costs: domestic

The unbearably high cost of using force against Taiwan, regardless of its success, could fundamentally destabilize the CCP's rule domestically. A fundamental challenge for the post-Mao leadership has been the lack of political legitimacy for CCP rule; and the June 1989 crisis was testimony to the formidable depth of this challenge. Deng Xiaoping's solution was to insist upon "two principal points" in policy making; that is, to "maintain political stability" as a means of consolidating CCP rule, and to "carry on the policy of reform and openness" in order to "rapidly develop… [China's] economy."[25] Deng held the view that rapid economic growth would win people's support and eventually provide political legitimacy for the CCP's rule. Deng asserted that "economic modernization is…the basis for the solution of our external and internal problems."[26]

Economic development, however, also gave rise to demands for freedom and political reform eventually leading to democracy, an essential source of the 1989 student movement. After the bloody crackdown, the CCP leadership launched a "patriotism education campaign" as a means of rebuilding the declining legitimacy of its rule. The aim was to "educate the young people about the Party's fundamental line,"[27] reminding them of the "miseries, humiliations and exploitation" China suffered from the intrusion of Western imperialism, and indoctrinating them with the view that it was under the CCP leadership that the Chinese people stood up with pride and China became an independent and strong country. Major events, such as the retrocession of Hong Kong (1997) and Macao (1999), and securing the right to host the Olympic Games, were further propagated to boost "patriotism" among the people. These efforts produced a dramatic surge in nationalism, particularly among the younger generation—those in their twenties and thirties. Amid surging nationalism, Taiwan has been perceived, especially after the return of Hong Kong and Macao, as the only piece of land ceded to a foreign power (Japan) that has not yet been "returned to the motherland." Given that Taiwan remains independent of the PRC

government, it has become the ultimate symbol of the incompleteness in China's sovereignty and a reminder of China's suffering and humiliation at the hands of Western imperialist powers.[28]

It is against this backdrop that the "Taiwan issue" has become a deadly dilemma for Beijing. Chinese leaders had not expected Taiwan to become such a "core problem" in China's foreign relations, especially at the time of the normalization of US-China relations in 1979. In fact, they shared the view of a senior US diplomat, who participated in the normalization negotiations, and thought that Taiwan "would go away quietly."[29] In other words, Beijing's post-1979 emphasis on "peaceful reunification" stemmed not so much from its readiness to strive for a peaceful solution as from its confidence that "in the long run Beijing will see [China's] national power increase to a point at which it will be able to achieve reunification essentially on its terms."[30] Deng Xiaoping's words perhaps best reflect this line of thinking: "we must not have any hasty resort to force to [achieve reunification], for we must concentrate on economic construction. That the reunification issue might be settled sometime in the future is not a big deal."[31]

What the Chinese leadership failed to envision was that Taiwan would accomplish economic modernization, democratization, and Taiwanization in politics in merely two decades (1979–99), despite its virtual isolation in the international community. When Taiwan began its efforts for *de jure* independence in 1996,[32] Beijing was ill prepared and forced into a very difficult situation. On the one hand, rising nationalism, which was largely of the CCP's own making, and the absence of political capital for a barely established leadership, i.e. that of Jiang Zemin, left Beijing with little room for maneuver in its Taiwan policy, which was centered on Deng's "one-country-two-systems" formula. On the other hand, there was also little China could do to force Taiwan to return to the One-China framework. It was not because China lacked the resolve and capability to use force against Taiwan, but rather because the Chinese leadership was uncertain as to whether they could manage the consequences of a war on Taiwan, both internally and externally.

As a result, Beijing has lost virtually all its initiatives in dealing with Taiwan and has been forced to respond passively to developments on the island, which have essentially moved in the direction of seeking *de jure* independence. It was in such a context that China reacted aggressively toward Lee Teng-hui's 1995 visit to the US with live missile exercises across the Taiwan Strait in 1995–6,[33] and that Premier Zhu Rongji issued a stern warning on the eve of Chen Shui-bian's presidential election victory in March 2000. The seemingly generous "sunshine policy" toward Taiwan thus lost the flexibility necessary to adapt to Taiwan's changing situation, and became increasingly ossified and unattractive to Taiwan.

Despite its insistence on the One-China principle, and its high-handed containment of Taiwan in the international community, in reality Beijing has made some subtle but significant concessions. Among them, most important is perhaps the recognition that, "on the basis of the One-China principle, the two sides will hold consultations on an equal footing."[34]

The basic reason for Beijing's ossified and inept handling of the Taiwan issue is that it cannot afford to lose a war against Taiwan, or to seek a cease-fire once such a war has begun, without first forcing Taiwan to accept the One-China principle. In fact, Beijing cannot even afford to let a war drag on, as a stalemate and the recession that would follow might trigger an explosion of all the major problems facing China. These problems range from migration to unemployment, from rampant corruption to the unaccountability of public offices, from extensive bad loans to problematic state-owned enterprises, and from the growing wealth gap between the coast and the hinterland to the economic polarization of Chinese society. An even more serious problem for Beijing is that a war against Taiwan is likely to provoke an overall power struggle within the leadership. A profound change in Chinese politics after the death of Deng Xiaoping meant that no single individual among the new-generation of leaders held the same level of authority that Mao Zedong or Deng had possessed. Neither Jiang Zemin nor Hu Jintao has been able to dominate the policy making process. Meanwhile, thanks to developments during the past twenty years, Chinese society has greatly

diversified, and the reform period has left a legacy of decentralization, especially in the arena of decision making in the economic arena. All this has made the leadership particularly vulnerable to internal challenges, especially in a time of crisis. A war against Taiwan, should it go badly, could provoke an intense struggle for power among Chinese leaders, potentially endangering the CCP leadership, as well as the survival of the entire CCP political system.

The above notwithstanding, rising nationalism would fundamentally destabilize the CCP regime, should the CCP leadership choose to stand by as Taiwan seeks *de jure* independence. Beijing is therefore faced with a genuine dilemma. It was the recognition of this reality that forced Beijing to quietly change its priority on the Taiwan issue, from "promoting reunification" to being "firmly against any moves towards Taiwan's *[de jure]* independence," as a means of maintaining "stability and status quo" across the Taiwan Strait.[35] As Chase Freeman keenly observed as early as 1996, despite the sound and fury of the 1996 missile crisis and the "reunification" rhetoric, Beijing in fact had no intention of altering the status quo across the Strait anytime soon. Instead, China's Taiwan policy is essentially aimed at "persuading Taiwan to stop doing things that appeared to challenge the status quo or to prejudice the prospects for ultimate reunification."[36]

Conclusion

To ask whether China can afford to attack Taiwan is a misguided question, for the threat of force against Taiwan is not a policy, but an ultimate deterrent to Taiwan's independence. Should this deterrent fail, Beijing would feel that it had no real choice but to launch an overall attack on Taiwan. Given the surging nationalism and serious social, political, and economic problems at home, inactivity when Taiwan claims *de jure* independence is *not* an option for the Chinese leadership. An even slightly delayed response would surely trigger a nation-wide insurgence that could topple the CCP regime.

Even if China 'won' the war, a recession—not just at home but in the entire Asia-Pacific region—and the resultant hostile international environment would prove devastating for China. Ironically, the more successful Beijing's war turns out to be, the more hostile its external environment will become; such a war would not only alert China's neighbors to its potential threat, but also demonstrate to the world how aggressive China can be in challenging the existing international system.

Given its enormous political, economic, and social problems, if China should lose the war, or be forced into a stalemate, it is more than likely that the CCP regime would collapse even before a peace settlement were reached. With the size of China and its increasing economic and political integration into the international community, such a disaster would spread to the entire region and even the whole world. Indeed, the Chinese leadership must have realized that both Taiwan *and* China would face destruction, whether or not China won a war against Taiwan. It is exactly because of this recognition that Beijing has repeatedly emphasized that the use of force will be the "last resort" for China to prevent Taiwan's *de jure* independence. It is essentially this guaranteed mutual destruction that, in Beijing's calculation, will ultimately deter moves toward Taiwan independence. This is why China's leaders have stated, on various occasions, that preventing Taiwan's *de jure* independence and "maintaining the motherland's sovereignty and territorial integrity have priority over our own lives."[37]

It is exactly because the ultimate price China must pay, if it should attack Taiwan, is so high that everything must be done to pre-empt such an eventuality.

Notes

1 See http://news.sina.com.cn/c/2004–02–03/10061701381s.shtml, and http://www.nytimes.com/2003/12/03/international/asia/03CND-CHIN.html

2 I talked with Senior Colonel Luo Yuan at a conference in Beijing on 9 January, 2004. I asked him whether the points they made in this interview represent the stance of the Chinese leadership; the answer was positive: "what we said [in the interviews] were of our own opinions. But they should also reflect to a large degree China's position on this issue."

3 See http://www.china-embassy.org/eng/xw/t111117.htm

4 See http://www.mofcom.gov.cn/table/jcktj/tjkb/kb2002_12.html

5 See http://www.stats.gov.cn/tjgb/ndtjgb/qgndtjgb/t20030228_69102.htm

6 See http://english.mofcom.gov.cn/article/200402/20040200184863_1.xml

7 See http://english.mofcom.gov.cn/article/200402/20040200184855–1.xml

8 See http://www.stats.gov.cn/english/newsandcomingevents/t20040120_137778.htm

9 See http://www.stats.gov.cn/tjgb/ndtjgb/qgndtjgb/t20030228_69102.htm

10 See http://www.mofcom.gov.cn/article/200401/20040100171259_1.xml

11 According to Nicholas Lardy, over $400 billion FDI flew to China by 2002. See his speech at Rice University on 29 April, 2002, at http://www.ruf.rice.edu/~tnchina/commentary/lardy042902.html

12 The report, however, falls short on estimates and speculation of the scenarios of a protracted warfare against Taiwan. Nor does it give a definite timetable for "a quick success."

13 See http://english.mofcom.gov.cn/article/200402/20040200183744_1.xml. By conservative estimates, over one third of the merchandise from Taiwan was imported indirectly, via the third places like Hong Kong, South Korea and Southeast Asian countries, because of the political obstacles on the Taiwan side. Thus, the actual amount of imports from Taiwan to China is substantially larger than the official statistics.

14 See http://english.mofcom.gov.cn/article/200402/20040200183706_1.xml. Although there is indirect import from mainland China to Taiwan, the amount should not be substantial, given the structure of economic exchanges across the Taiwan Strait and different political environments in China and Taiwan.

15 See, among others, Nicholas Lardy, Integrating China into the Global Economy (Washington DC: Brookings Institution Press, 2002). Also see his speech at Rice University on 29 April 2002, at http://www.ruf.rice.edu/~tnchina/commentary/lardy042902.html

16 In late 2003 and early 2004, the PRC government convened at least three roundtables (two in Beijing and one in Shanghai) on "economic implications" of a war against Taiwan. This author attended (partially) the one in Shanghai in mid-January 2004.

17 For US policy, see Chapter 3.

18 Immediately after the 1997–8 Asian economic crisis, several leading research institutes and think tanks in China, including the Social Science Academy, the CCP Central Party School, and the China Foundation of International and Strategic Studies, organized simultaneous "research projects" on world politics and the trend of its future development, China's development strategy, national security, foreign policies, and China's position and role in international affairs. The "policy recommendations" produced by these projects have exerted "a substantial effect" on policy making, especially after the Hu-Wen leadership took over in March 2003. This author completed four policy papers and participated in several workshops

for these projects.

19 Zheng Bijian, Executive Vice-President of the CCP Central Party School, made a speech, "The New Road of China's Peaceful Ascendancy and the Future of Asia" at the Bo'ao Asian Forum, held in October at Bo'ao, Hainan Province in China. The CCP leaders reached a consensus on this strategy at "a Politburo study session" on 24 November 2003. But it was Wen Jiabao who repeated this thesis of "peaceful ascendancy" during his visit to the United States in December 2003. Cf. Zhang Jianjin, "Heping jueqi: yige zhongda de chengnuo" (Peaceful ascendancy: a important promise), *China Economic Times* (published by the Center of Development Studies of the PRC State Council), 12 December 2003, 1.

20 Tang Jiaxuan, "Zhonguo kua shiji waijiao de guanghui licheng" (The glorious achievements of China's diplomacy in 1989–2002). This is a speech Tang made at a conference on 17 October 2002, convened jointly by five CCP central apparatus and ministries, including the CCP Propaganda Department and the Ministry of Foreign Affairs. The version at http://www.fmprc.gov.cn/chn/ziliao/wzzt/2319/t10827.htm is watered down for "the propaganda toward the outside [duiwai xuanchuan]." But even from this version one can see fundamental changes in China's foreign policy in the post-Deng period, especially after 1998.

21 See Jiang Zemin, "Report to the 16th CCP National Congress: Section 9," at http://www.cctv.com/news/china/20021117/100187_9.shtml

22 Quoted from Niu Jun, in Song Nianshen, "Zhongguo zhoubian waijiao fenliang zhong" (China's peripheral diplomacy carries a heavy weight), *Global Times,* 12 December 2003, 7.

23 See the speech of Wang Yi, a vice-minister of foreign affairs in charge of policy planning and Asian affairs, at the Conference of Security Cooperation in East Asia, held in Beijing on 12–13 December 2003, at http://news.sina.com.cn/c/2003–12–15/14091346610s.shtml

24 Beijing began to advocate its "new security concept" in early 1997. It argues that the "traditional concept" that security can only be achieved through military means, is wrong because this concept and its practice would only lead to arm races in which every country is trying to build up its military for its own security. See "[Defense Minister] Chi Haotian's Speech in Japan," *The PLA Daily,* 5 February 1997, 1; Editorial Commentary, "A new Security Model of Good Neighborhood," *People's Daily,* 25 April 1997, 1; Qian Qichen's speech at the 4th ARF Meeting in Malaysia, *China Daily,* 28 July 1997, 1; Li Qinggong and Wei Wei, "The World Needs a New Security Concept," *People's Daily,* 24 December 1998, 5. But this "new security concept" has been rarely seen in Chinese media after the 11 September attack.

25 *Deng Xiaoping sixiang nianpu* [Chronology of Deng Xiaoping's Thought] 1975–1997, compiled by the Department for Research on Party Documents (DRPD), the CCP Central Committee (Beijing: the DRPD Publishing House, 1998), 457, 459.

26 Deng Xiaoping, "The Opening Speech at to the CCP's Twelfth National Congress," in *Selected Works of Deng Xiaoping,* vol. 3 (Beijing: People's Press, 1993), 3.

27 See "Zhongguo jiaoyu gaige he fazhan gangyao" (The outlines of education reform and development in China), in *Shisi da yilai zhongyao wenjian xuan bian (Selection of the important documents after the Party's Fourteenth Congress),* compiled by the DRPD, vol. 1 (Beijing: People's Press, 1995), 77.

28 See Jiang Zemin, "Speech at the Celebration of Hong Kong's Return to the Motherland," in *Shisi da yilai zhongyao wenjian xuan bian,* vol. 3 (Beijing: People's Press, 1998), 2562.

29 Interview with a senior US diplomat on 9 August 2003.

30 Robert Manning and Ronald Montaperto, "The People's Republic and Taiwan: Time for a

New Cross-Strait Bargain," *Strategic Forum,* no. 13 (February 1997), 3.

31 Deng, "Speech at the 3rd Plenary Session of the Central Advisory Committee," in *Selected Works of Deng Xiaoping,* vol. 3, 87.

32 From Beijing's point of view, the adoption of the new Election Law in Taiwan in March 1996 was the beginning of Taiwan's effort to seek de jure independence. Hence the PLA upgraded its missile exercise in the Taiwan Strait, resulting in an overall crisis involving China, the USA and Taiwan.

33 Internally speaking, what underlies the PLA's missile exercises in 1995–6 was a typical failure of civilian control over the military. Neither the plans nor their executions were Jiang's, but he was forced to accept them under pressure from the hawkish PLA generals and the hardliners in the Party leadership. See Jing Huang, *Civil-military Relations in China: A Long March towards Civilization* (Transaction Publisher, 2003).

34 "Beijing's 2000 White Paper [on Taiwan]," *Beijing Review,* vol. 43, no. 10 (6 March 2000), 19. This is in fact a substantial concession from Beijing's point of view. In September 1990 Yang Shangkun, then President of the PRC, stated that, "by no means can we recognize that Taiwan and the mainland are two governments on an equal footing. That would mean two Chinas." See "Yang Shangkun on China's Reunification," *Beijing Review,* vol. 33, no. 48 (26 November 1990), 15.

35 See the Statement by the Taiwan Affairs Office of the PRC State Council and the CCP Central Committee, issued on 17 May 2004, at http://www.china-embassy.org/eng/xw/t111117.htm

36 Chase Freeman, "Sino-American Relations: Back to Basics," *Foreign Policy,* no. 104 (fall 1996), 13.

37 See http://www.china-embassy.org/eng/xw/t111117.htm

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AAA	Anti-aircraft artillery
AAM	Air-to-air missiles
AAW	Anti-air warfare
ABMD	Aegis ballistic missile defense
AEF	Air expeditionary force
AEW	Airborne early warning
AIP	Air independent propulsion system
AIT	American Institute in Taiwan
ALCM	Air launched cruise missiles
AOR	Area of operation
APC	Armoured personnel carriers
APT	Asia Pacifc Telecommunications
ASLV	China Aerospace Solid-propellent Launch Vehicle Co. Ltd.
ASM	Anti-surface ship missile
ASROC	Anti-submarine rockets
ASW	Anti-submarine warfare
AWACS	Airborne warning and control systems
BAI	Battlefeld air interdiction

B BVR	Beyond visual range
C2	Command and control
CNA	Computer network attack
CAP	Combat air patrol
CAS	Close air support
CASS	Chinese Academy of Social Sciences
CC&D	Camoufage, concealment and deception
CCP	Chinese Communist Party
CDC	Combat direction center
CFI	Contracted foreign investment
CONUS	Continental US
CMC	Central Military Commission
DCA	Defensive counter-air
DDG	Guided missile destroyer
DIC	Defense industrial complex
DOD	Department of Defense
DPP	Democratic Progressive Party
ECCM	Electronic counter-countermeasure
ECM	Electronic countermeasures
EID	Electronic identifcation
ELINT/SIGINT	Electronic intelligence and signals intelligence
EU	European Union
EW	Electronic warfare
FBM	Fleet ballistic missile submarine
FDI	Foreign direct investment
FEZ	Fighter engagement zones
FFG	Guided missile frigate
FLO/FLO	Float-on/foat-off
GAO	Government Accounting Offce

GCI	Ground-controlled intercept
GHQ	General headquarters
GPS	Global positioning system
HMMWV	High-mobility multi-purpose wheeled vehicle
IADS	Integrated air defense system
IDF	Indigenous defensive fghters
IFF	Identifcation friend or foe
IISS	International Institute for Strategic Studies
IRBMS	Intermediate-range ballistic missile
IW	Information warfare
JEZ	Joint engagement zones
JTIDS	Joint tactical information distribution system
KKV	Kinetic “kill vehicle”
KMT	Kuomintang, the Nationalist Party
LACM	Land-attack cruise missile
LSM	Landing ships mechanized
LST	Landing ships tank
MAD	Mutually assured destruction
MAGTF	Marine air-ground task force
MANPADS	Man-portable air defense system
MCM	Mine counter-measures
MEZ	Missile engagement zones
MHC	Mine hunters
MR	Military region
MRBM	Medium-range ballistic missile
MSS	Ministry of State Security
NM	Nautical miles
NATO	North Atlantic Treaty Organization

OAAW	Offensive anti-air warfare
OCA	Offensive counter-air
PACAF	Pacifc Air Forces (US)
PACFLT	Pacifc Fleet (US)
PACOM	Pacifc Command (US)
PFP	People's First Party
PGM	Precision-guided munitions
PLA	People's Liberation Army
PLAAF	People's Liberation Army Air Force
PLAN	People's Liberation Army Navy
PLAN-AF	People's Liberation Army Navy Air Force
PRC	People's Republic Of China
PSC	Politburo Standing Committee
REMIS	Reliability and maintainability information system
ROC	Republic of China
ROE	Rules of engagement
SAM	Surface-to-air missile
SARS	Severe acute respiratory syndrome
SEAD	Suppression of enemy air defense
SLOC	Sea lanes of communication
SHOR ADEZ	Short-range air defense engagement zone
SNDMC	State National Defense Mobilization Committee
SOF	Special operations forces
SRBM	Short-range ballistic missile
SRBOC	Super-rapid-blooming-offboard-chaff
SSN	Nuclear attack submarine
SWIEE	Southwest Institute of Electrical Engineering
TAF	Taiwan Air Force
TELS	Transporter erector launcher

TLAM	Tomahawk land attack missile
TMD	Theater missile defenses
TRA	Taiwan Relations Act
UF	United Front
UFI	Utilized foreign investment
US	United States
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
WEZ	Weapon engagement zones
WHO	World Health Organization
WTO	World Trade Organization
WWII	World War II

Table 6.1 Comparing recent American air campaigns.

Campaign	*Days*	*Aircraft*	*Sorties*	*Munitions*	*Cruise missiles*	*Tons of munitions*	*Munitions cost*
Desert Storm	43	2,400	112,000	227,165	329	85,000	$2.7billion
Allied Force	78	700	37,465	23,000	540	6,303	$320 million
Iraqi Freedom	26	1,801	41,400	28,820	955	13,695	$1.4billion

Sources: the source for each entry is provided in the paragraphs below.

Table 8.1 Amphibious ships.

Type of ship	*Class*	*Tonnage*	*2000*	*2010*
Type 074	*Yuting*	4,800	6	20
Type 072	*Yukan*	4,170	7	7
	Yudeng	1,850	1	1
Type 073	*Yudao*	1,460	1	1

Table 8.2 Yuting-class LST.

Builder	Zhonghua Shipyard
Propulsion	diesel
Length	426ft/130m
Beam	52 ft/16m
Draft	11 ft/3.2m
Displacement	4,800 tons
Crew	120
Capacity	250 troops, 500 tons equipment
Armament	three dual 37 mm
Construction	At least six have been built at a rate of roughly one each year since 1992

Table 8.3 Yukan-class LST.

Builder	Zhonghua Shipyard
Propulsion	diesel
Length	394ft/120m
Beam	50 ft/15m
Draft	9.5 ft/2.9 m
Displacement	4,170 tons
Crew	110
Capacity	200 troops, 500 tons equipment
Armament	four dual 57 mm guns

Table 8.4 Yudeng-class LCM (essentially a smaller version of the *Yukan*-class).

Propulsion	diesel
Length	285 ft/87 m
Beam	43 ft/13 m
Draft	13ft/3.8m
Displacement	1,850 tons
Speed	14 knots

Crew	40
Capacity	500 troops
Armament	one dual 37 mm
Construction	Only a single unit was produced, as the design did not enter series production

Table 8.5 Yudao-class LCM.

Propulsion	diesel
Length	269 ft/82 m
Beam	41.3ft/12.6m
Draft	10 ft/3.1m
Displacement	l,460 tons
Crew	60
Armament	four dual 25 mm guns

Table 10.1 Traditional power politics and China's new strategy of status advancement.

	Traditional great power politics	*Politics of China 's quest for international status*
State motivation	Superior relative power through zero-sum logic Balancing against predominant power	Balanced pursuit of power and legitimacy Mitigated balancing logic
Conception of power	Defned predominantly by material capabilities and military forces Heavy reliance on power politics to change international outcomes	Refutation of "China Threat" theory. Mutually reinforcing growth of "comprehensive national power" and international legitimacy through reassurance of peace, cooperation, and self-restraint
Basis of		

threat assessment	Distribution of power	"Peace and development" attainable
	Ineluctable security dilemma	Security dilemma reversible
Mechanism for change	Unmitigated power struggle leading to military showdown	Peaceful means
Outcome	Tragic repetition of great power war dictated by the self-help, anarchic structure	Win-win cooperation to create "China Opportunity" theory Possibility of status compatibility and peaceful, institutionalized competition. Responsible great power fully integrated in and recognized by the international society.

Table 11.1 China's top ten import sources (2003) (unit: US$100,000,000).

Rank	*Country/region*	*Jan–Dec.*	*Increase %*	*Share %*	*Change in share %*
	Total value	*4,128.4*	*39.9*	*100.0*	–
1	Japan	741.5	38.7	18.0	0.1
2	EU	530.6	37.7	12.9	0.2
3	Taiwan	493.6	29.7	12.0	0.9
4	ASEAN	473.3	51.7	11.5	0.9
5	Korea	431.3	51.0	10.4	0.7
6	USA	338.6	24.3	8.2	1.0
7	Hong Kong	111.2	3.7	2.7	0.9
8	Russia	97.3	15.7	2.4	0.4
9	Australia	73.0	24.8	1.8	0.2

10	Brazil	58.4	94.6	1.4	0.4

Sources:
http://english.mofcom.gov.cn/article/200402/20040200183744 1.xml

Table 11.2 China's top ten export markets (2003) (unit: US$100,000,000).

Rank	*Country/region*	*Jan.–Dec.*	*Increase %*	*Share %*	*Change in share %*
	Total value	4,383.7	34.6	100.0	–
1	USA	924.7	32.2	21.1	0.4
2	Hong Kong	762.9	30.5	17.4	0.6
3	EU	721.5	49.7	16.5	1.7
4	Japan	594.2	22.7	13.6	1.3
5	ASEAN	309.3	31.1	7.1	0.1
6	Korea	201.0	29.4	4.6	0.2
7	Taiwan	90.0	36.7	2.1	0.1
8	Australia	62.6	36.6	1.4	0.0
9	Russia	60.3	71.4	1.4	0.3
10	Canada	56.3	30.9	1.3	0.0

Sources:
http://english.mofcom.gov.cn/article/200402/20040200183706_1.xml